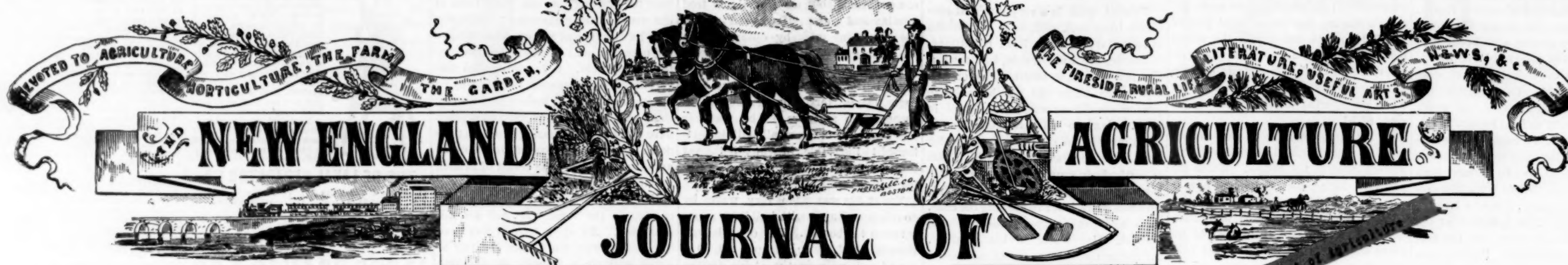


MASSACHUSETTS PLOUGHMAN



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MASSACHUSETTS PLOUGHMAN
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one side of the paper, with ink, and upon one side
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Letters should be signed with the writer's real
name, in full, which will be printed or not, as
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AGRICULTURAL.

KEEP the hopper of the milk milch
full, that is to say, feed the milch cow
liberally.

A WASTE of time that is unpleasant
as well as useless, is that spent in dread-
ing a job that must be done.

If part of the orchard land is heavy
and little inclined to clay, plant the pear
trees upon it, dwarf and stand-rod.

As the long evenings come on, re-
solve to learn something new every
twenty-four hours. No danger of know-
ing too much from winter study.

J. H. HALE, the Georgia peach grower,
reports a big and successful peach crop
this year from his Georgia orchard. His
Connecticut crop, however, was a fail-
ure.

To keep grapes some time after pick-
ing, a thoroughly dry place with good
ventilation should be selected. Do not
pack them too deep and do not disturb
until wanted.

TAR is used for wounds in trees with
good results. Some consider it much
better than grafting wax or paint. Car-
bolic acid is sometimes added to coal tar
with success.

TIME is well-spent in collecting a
few dry leaves in fence corners, ditches,
etc., and storing them for use. A lot
of marsh hay will be useful for mulch-
ing strawberries.

Those who have really choice apples,
can, if they try, find special markets for
them from keepers of high grade res-
taurants and similar establishments. Not
one in a hundred growers has many
fancy apples.

CHAMPION quinces color later than
the Orange or other varieties, and may
be picked before they become yellow,
but in any event they should be picked
later than the Orange whether they are
colored or not.

RYE makes much fall and winter
feed for the stock farmer and is espe-
cially valuable to afford a variety during
the dry fodder season. It makes an
early and vigorous start in spring, pre-
ceding the grass as pasture and returns
almost as good a crop as if it had not
been grazed.

THE Northern Spy is a variety often
highly recommended, but in actual ex-
perience one does not often meet a
grower who has made any money from
this kind. While the fruit is of good
quality and always tastes well in the
market, the tree in order to bear well-
shaped fruit and much of it, requires
petting such as would make the Bald-
win produce enormous crops.

Some Suggestions for the Season.

The progressive dairyman should al-
ways be alive to whatever will tend to
improvement in his herd and in reared
calves from the same. In preparing the
herd for winter a careful survey
should be made with the view of weed-
ing out any poor or unprofitable ani-
mals.

Taken for granted that the dairyman
has been doing his best in selecting,
breeding and caring for the herd, yet
hardly ever a season passes when from
some cause or other there will not be
more or less of trouble or failure with
cows, rendering it necessary that change
should be made to keep it in the best
working condition.

Cows however good will grow old
and must in time be replaced. Some
will last longer than others, but after a
certain age they are liable to fail sud-
denly—perhaps after being wintered
through—and prove a total loss.

Sometimes there will be trouble with
the udder or teats—particularly where
high feeding is practiced—and if a cow
is very much inclined this way, it will
be better to get rid of her rather than
be under the necessity of treating her
for the difficulty, usually with the re-
sult of partial or entire failure in the
end.

Then there are the healthy cows but
unprofitable to keep, either because they
give too little milk or that which is poor
in quality, or perhaps are disposed to
go dry too long. Now here is where
accurate tests should be made to deter-
mine the matter. But some good judg-
ment will be needed here in order to
prevent mistakes from being made. It
will not be safe to rely either on the
test for quality of milk, or the amount
given alone. For instance a cow may
give a comparatively small yield of
milk, but from its superior richness and
the habit of holding out, may really be
more valuable than another that would
give a much larger amount, but of a
poorer quality.

Again a cow may test quite low in
butter fat and still be such a good milk-
er that it will fully make up for the
lack of richness and be a profitable ani-
mal to keep. The Babcock test and the
scales will determine this matter much
more definitely than can be done in any
other practical way.

Here is an item from a farm journal
that will throw some light on this point:
"In many common dairies an expert
judge will find cows capable of produc-
ing 10,000 pounds of milk in a year, but
the owner does not know which cow
it is. The writer once bought a cow
that gave over 10,000 pounds of good
milk the first year. This milk at
\$1 per hundred pounds brought over
\$100."

Of course these are exceptional cases
in milk yield, and more so if of average
quality, but it shows that without some
kind of means for determining the in-
dividual merit of cows, very many farm-
ers would be at a loss as to which are
their best or poorest animals.

Now in case farmers in a community
promote a creamery or cheese factory
where the milk is paid for according to
test, there is a chance for misunder-
standing and perhaps dissatisfaction,
from the want of a little knowledge or
calculation. For instance, farmer A's
cows—perhaps Jerseys—give rich milk
and it goes well up in test. Farmer B
has what he calls a good herd of another
breed, or perhaps common stock, but
the test is considerably lower than his
neighbor's, and forthwith he condemns
the test and is dissatisfied with the re-
sults altogether.

The test is all right in determining the
merits of individual cows—along with
the scales—and to form a basis for the
payment of milk, but in judging of the
comparative merits of different dairies
or herds, the monthly returns are a
better guide. Here Mr. B's cows may
go ahead of Mr. A's, as has not fre-
quently been the case; hence when
rightly understood he has no cause for
complaint, but rather of satisfaction at
the result. Here is where a little
knowledge would be of use and save
trouble.

Again a dairy may make a large
showing during the best of the season,

then go rapidly down the scale and dry
off early, while another of modern e-
milking capacity will "hold out" so de-
terminately that it will come in ahead of
the other at the end of the year.

The aim should be to get the best
possible herd of whatever breed it may
be for the purpose wanted, always re-
membering that, so far as possible,
quantity, quality and persist at milkers
are prime requisites.

Do not condemn a heifer from the
first year's trial, unless manifestly
worthless, as often they will greatly im-
prove and become the best of cows.
Occasionally it will require several
years to get at the height of usefulness.
Neither should one be discarded that
does extraordinarily well the first year,
and not as well the second, as causes
may combine to produce this result that
will afterward be removed and a good
serviceable animal be retained in the
dairy.

These suggestions are calculated both
for the private dairyman and those who
patronize a creamery or cheese factory,
as in either case good, sound sense is
needed to acquire and keep in the best
working condition a herd of cows for
this purpose. E. R. TOWLE.
Franklin County, Vermont.

Town Milk Trade.

The milkman sustains an important
relation to the city and town. In the
smaller cities and in villages he comes
in regular contact with his customers
and is appreciated by them in propor-
tion to his courteous ways, promptness
and general attention to business and
the quality of his goods. To make a
success he must also be thorough and
clever in all the details of his dairying
operations, from the care of his herd to
that of his cans and other dairy uten-
sils.

Some milkmen in addition to running
a wagon for the delivery of milk, estab-
lish a place in a large village or city for
the sale of milk and other products of
their dairy and farm, including cheese,
milk, cream, butter, cottage cheese,
eggs, etc. Such a place is very proper-
ly called a dairy, and many times that
word is prefixed by another one, the
two words making a sort of trademark.
To illustrate: "Riverside Dairy" has
been established as a business in the
city of McCook, Red Willow Co.,
Nebraska, to our knowledge, since 1892
and how long before that year we can-
not say. While the ownership has been
changed once or twice, at least, the
name of the business remains the
same, which has a tendency to give it a
standing.

Of course when a dairy business is
established in town, and for that matter
sometimes when delivery is made direct
from the farm, there must be some pro-
vision made for the cold storage of milk
and other dairy products. Thus far
nothing has been found better adapted
to that service than a portable re-
frigerator with a refrigerator com-
bined. Such an article not only affords
storage for milk, cream and butter, but
provides for the primary and final
separation of the cream from the milk.
Or in other words the Swedish system
of cream raising can be practiced in it,
and when the cream has risen the milk
can be drawn from beneath. Further
cans of any quantity of milk can be
drawn at any time. Cream can be
stored in one of the cans of the cream-
ery, if desired, and drawn in the same
way, through a faucet. Therefore
when a milkman, either delivering
direct from the farm or maintaining a
business in town, or both, has a port-
able creamery, he not only is provided
cold storage but is in position to furnish
cream on short notice and at all times.

By the practice of the Swedish system
the cream is raised by ice separate
the cream in two hours, and by adding
salt to the ice it can be accomplished in
one hour. Then again any milk left
over unsold can be put into the cream-
ery and the cream raised from it, to be
sold or made into butter, or ice cream.
Another useful and almost indispen-
sible article for dairymen who produce
milk for town supply, or for the public
creamery, or cheese factory, is a milk
cooler and aerator. By the use of it the

milk can be quickly cooled and thor-
oughly aired.

The delivery of milk in glass bottles
is on the increase and bids fair to come
into pretty general use within the next
few years. I cannot do better than
quote from the Practical Dairyman, an
item that shows the advantages to be
derived from that way of delivering
milk. It is as follows:

"Bottled milk is not only neater,
more attractive, and more wholesome
for the consumer, but it saves the milk-
man money in several ways. One sav-
ing comes from measuring the milk. In
the glass bottle there is just one quart
or one pint, as the case may be. The
customer gets what is due but no more;
whereas in practical delivery by quart
measure from a large can, the deliv-
ery man is hurrying along his route, and
oft n, yes, generally, puts in more milk
with each measure than is called for.
Little as this milk loss may be in the
individual instance, in the course of a
day's delivery of twenty to forty cans,
this item assumes considerable im-
portance, and in the course of a year's
time the difference between selling
bottled milk and the old method of de-
livering from the can is very large in-
deed, and means much money saved
(or made) in the former case over the
latter. Indeed, a dairyman of experi-
ence with both methods believes the
bottles sufficient to purchase a good
farm. Another saving to be mentioned
is the saving of time in delivery. The
man who leaves the milk can-
dies every time, as he can do his
work more easily and rapidly."

F. W. MOSELEY.

Clinton, Iowa.

Fattening Home Grown Lambs.

This paper presents a synopsis of the
facts contained in Bulletin No. 59, Sec-
tion 3, recently issued by the Minnesota
Experiment Station. It treats of the
fattening of a bunch of home grown
lambs of good quality. The chief of the
objects sought were: 1. To bring the
lamb to a high finish, and that would
at the same time produce an excellent
quality of meat; 2. To ascertain the
effect of such a diet upon the devel-
opment during a prolonged period of
feeding; and 3. To test the capacity of
lamb grown on summer forage other
than grass for fattening. The feeding
period was a long one. It began Nov.
9th, '96, and ended March 15th, '97,
thus covering a period of 126 days.
The experiment proper lasted for 112
days.

When the heavy lambs of the previous
winter had been fattened, difficulty
was experienced in disposing of them
in the Twin Cities. The objection made
was that they were too fat for the
market demands, and some dealers went
the length of saying that lambs could
not be brought to a very high degree of
finish without overloading them with
tallow. The writer contended that the
most perfect finish could be made with-
out undue fattening, providing the foods
were suitably chosen, suitably blended
and suitably fed. And this experiment
was conducted with the principal object
in view of sustaining this theory.

The lambs were all bred upon the
farm; they were reared upon pastures
other than grass, that is to say, on
sown pastures such as winter rye, peas
and oats, corn, sorghum, rape and cab-
bage. While being thus pastured they
were not fed grain. They were dropped
in March and late in the month; the
sires were pure Dorsets and the dams
were common grades, with a good
sprinkling of Merino blood in their
composition. The lambs were of good
form, but were not of the highest low
down type of development.

They were fed in a shed 9x12 feet
and had access to a yard at will; the
yard was 18x28 feet, and on the sunny
side of the building; they had water and
salt at will. The food consisted of oats,
bran barley and oil cake in the propor-
tions of 3, 3, 3 and 1 parts respectively
by weight, native hay and roots; the
roots consisted of carrots and mangels.
The hay was very poor in quality, being
overripe and overcured. The rations,
therefore, were nitrogenous rather
than carbonaceous. The lambs were

given what they would eat clean of
grain and hay and what was considered
a fairly liberal supply of roots. The
food was charged at average market
prices within the state; these were as
follows: Bran, \$6.50 per ton; oil cake,
\$14 per ton; corn, 18 cents per bushel;
barley, 16 cents; and oats 14 cents;
the native hay per ton was \$3, and the
roots 4-12 cents per bushel of 50
pounds. These are low prices but in
some instances they are more than was
actually paid. Bran was bought at
\$4.50 per ton, and oil cake at \$13 per
ton. These figures will be a surprise to
feeders who live in the East.

The average food consumed per day
was as follows: Grain, 2.28 pounds;
hay, .93 pounds and roots, 1.88 pounds,
or a total of 5.09 pounds; the propor-
tion of hay to the grain consumed was
40 per cent. With range lambs fed
somewhat similarly but without roots,
it was only 23 per cent. The greater
consumption of the former may possibly
have arisen from feeding a diet of roots.
The cost of feeding one animal for 126
days was \$1.51.

The average weight of one lamb when
put into the experiment was 90 pounds.
When sold 126 days later, it was 134.2
pounds without shrink. The average
increase per animal per month was 10.5
pounds; during the experiment proper,
it was 11 pounds. These were excellent
gains for so long a period. With the
lambs of the previous winter the aver-
age gain per month was 12 pounds, but
they were fed for but 84 days. Another
feature of the gains was their contin-
uity. Notwithstanding the length of
their feeding period, the gains were
quite as good during the closing portion
as during any previous part of the feed-
ing period. The cost of making 100
pounds of increase in weight during the
feeding period was \$3.41.

At the commencement of the feeding
the lambs were valued at \$3.50 per 100
pounds; this was the highest price paid
for such lambs at the time for feeding
uses. They were sold by Col. W. M.
Liggett, the director, to E. M. Prouty
& Co., St. Paul. They ultimately
reached the retail markets of the Twin
Cities through the trade of W. E. Mc-
Cormick; the price paid was \$5.50 per
100 pounds shrunk weight. Range
lambs sold at the same time brought
\$4.87 1-2. Only 7 of the 10 lambs were
thus sold, but in the financial statement
they are all valued at 5 1-2 cents per
pound, the price for which the 7 lambs
sold. One of the lambs was presented
to the Commercial Club of St. Paul,
and served by the Club at luncheon. At
the lunch on were several of the most
distinguished men of the state. The
unanimous verdict of the guests placed
the character of the meat in the highest
scale. The proportion of the lean to the
fat was unusually large; the blend
of the fat and lean was simply per-
fect, and the meat was tender and juicy
as that of a spring lamb. The other
two animals of the lot were served on
tables of the best judges of meat in the
state, and the testimony was unanimous
as to the excellent character of the meat.

The financial statement is as follows:
Value of the 10 lambs, shrunk weight
(1288 pounds) when sold March 16th,
'97, at \$5.50 per 100 pounds, \$70.84;
value of the 10 lambs on Nov. 9th, '96,
per 100 pounds, \$31.50; total cost of
food, \$15.08; total net profit, \$24.26;
total net profit per lamb, \$2.43.

The value of each average lamb when
the experiment began was \$5.15, and
when it closed \$7.08. The average in-
crease in value, therefore, from the 126
days of feeding was \$3.93. In other
words the value of the lambs was more
than doubled during the said period of
feeding. The total net profit of \$2.43
per lamb is probably unequalled in the
annals of experimental feeding in this
country, at least for a period not ex-
tending beyond 126 days. And it may
be that it will not be equalled again.
The price of food is not likely to be so
low again for many years, if indeed ever,
hence the making of increase in weight
would be more costly. The ration was
doubtless a very suitable one to secure
the end sought.

The lambs were in uniformly good
health during the entire experiment.

They were always ready for their food,
and at all times during the experiment
they made good gains. The feeder, Mr.
Craig, has expressed the opinion that
he never fed a lot of animals which gave
a more satisfactory account of them-
selves at every stage of the feeding.
The result should tend to encourage far-
mers to grow lambs of a good quality
and to finish them at home.

THOS. SHAW.

University of Minnesota.

The Moving of Large Plants.

Nearly every one who owns a piece of
ground, whether it be a lawn or garden
or farm, will have transplanting to do,
or to direct. To insure the best results
he should be conversant with all the
elements of success; the proper season,
the previous preparation of the ground,
the condition of the plants, the lifting
and conveying to the new situation, and
then the replanting and after man-
agement. He must have some knowl-
edge of weather and soils, and of the relative
importance of roots and branches.
Almost necessarily some of the roots
will be destroyed in lifting, and in the
case of trees and shrubs this loss should
be neutralized by a judicious pruning of
the branches, followed by a careful sub-
sequent treatment. With some plants
the loss would be comparatively unim-
portant, and might even prove advan-
tageous, as it would induce a new and
more vigorous growth of young roots.
Sometimes the spongy tissue which ex-
tracts nourishment from the soil are very
numerous, and the loss of a few is of
little importance; again, a plant has but
a limited supply, and then even a small
loss means great risk.

How to plant and when to plant, and
what to plant, are questions of import-
ance to all of us. An explanation of
the principles on which success depends
makes the practical application very
easy. The tree has roots, and the roots
have fibres—the distinction is very im-
portant. It is customary to say of any
tree about to be planted that it has few
or many fibres, when few or many roots
or rootlets are meant. The true root
fibres are annual. Just like the leaves
of a tree, they are born and die within a
year. The office of these root fibres is
to collect the food for the tree's use.
They are the workers. The main roots
are the drones, but they do useful work
in holding the tree in position, and,
further, they are useful by holding a
store of nourishment.

The roots, properly so called, can sus-
tain a tree's life for a short time by the
mere absorption of water, just as a cut
thing will live for a short time in a glass
of water; but it cannot take in the
necessary elements for tree growth.
Unless, therefore, the roots push out
fibres soon after the tree has been trans-
planted, the tree's chances for life are
small. But again we must stop to con-
sider. When we examine these white,
thread-like fibres their tips will be seen
covered with a mass of cobweb like hair.
It is through these root hairs that the
food is selected and sent up through the
true roots to the branches. It is there-
fore evident that a well-planted tree is
one in which these root-hairs can be in
actual contact with the soil. If there
are spaces where the fibres cannot touch
the earth, they cannot make use of food.

No transplanted tree is a success until
new fibres have pushed out, and these
fibres are, by their growing points, in
close contact with the soil. And the
younger the true root, the more readily
it produces these threadlike fibres.
Roots but two, three, or four years old
produce fibres more readily than those
of mature years, and these younger
roots are in the main at the extremities,
or outer circumference, of the root cir-
culation. This is the only reason why a
nursery-grown tree, or one which has
been before removed, is more likely to
live after transplanting than one from
the woods that has never been moved.
The old roots cut in transplanting,
say three feet from the trunk of the
tree, send out numerous smaller roots.
When moved again, a few years later,
there are numerous three or four year
old roots at three or four feet from the
trunk to make the necessary fibres.
These would have been, perhaps, six
feet away but for the transplanting. A

tree from the woods, never transplanted
before, may be removed just as success-
fully as a nursery tree if the operation of
digging be started further away; but
this entails more time and labor. The
transplanted tree is the cheapest. One
can thus see that a well-planted tree is
one set out where there is the greatest
chance that new fibres will form, and the
earth is finely powdered and forced
tightly in and about the roots, so that
there can be no cavities.

Transplanting is always a test per-
formed in damp weather when there is
little evaporation going on. The great
danger is allowing the roots to become
dry, and in dull weather this is more
easily avoided. The ground is then in
better condition for working, and if the
plants are to be conveyed but a short
distance success is almost certain.

The holes that are to receive the roots
should be made rather larger than really
necessary, and their bottoms well broken
up and raised a little under the bases of
the plants. If the top soil is of better
quality than that beneath it, it should be
placed on one side and mixed with some
new. In setting, carefully spread out
all the roots with the hand and fill in
the hollow places with soil until it is
compact and firm. As the hole is filled
the earth should be trodden, using a
tamping stick, if necessary. All roots
that become mutilated should be cut off,
and if the season is dry, a mulching of
light manure or litter placed on the
ground to prevent evaporation. Water-
ing will depend much on the season,
not being so requisite in autumn as in
spring transplanting, and really being
necessary when the trees and shrubs
are moved but a short distance. But
when they have been on a long journey
the case is different, especially if the soil
among the roots has become somewhat
dry. Water should then be given liber-
ally, and careful attention given to them
throughout the summer immediately
following.

Trees that are of sufficient height
to be blown about and injured by rough
winds, should be securely staked as
transplanted, or supported in some way,
for preventing injury to the roots which
would be caused were the trees allowed
to sway about. In the case of standard
or tall trees, transplanted for immediate
effect, or for fruit bearing, two or three
guy ropes prevent this most effectually,
and they may frequently be dispensed
with as soon as the roots re-establish
themselves. When lifting a large tree it
is best to tie up with some soft cord
any branches that may be near the base,
and to commence digging out a spit of
soil outside the line to which it is calcu-
lated the roots will reach. Then use a
fork from the base of the tree outward
to separate the roots, but preserve as
large a ball of earth as may be conven-
ient to move, unless the tree is of a sort
which transplants readily with bare
roots.

Some advocate transplanting in the
fall and some in the spring; the best
season varies with individual plants.
One can be moved at any time during
the year, and another has a preference
for some particular month. As a rule,
all deciduous trees and shrubs transplant
best in the autumn after their leaves
have fallen, or very early spring. Early
fall is excellent, as soon as the wood is
ripe and the winter buds fully formed.
This is usually a month before the regu-
lar fall of the leaf. In the middle sec-
tion this would be usually about the first
of September, and the work of planting
can be kept up during October, and
often to November or December; but
late fall planting in cold climates is as
risky as late spring planting. The mois-
ture is dried out by cold winds or hot
suns before the new fibres are formed to
replenish the great evaporation. In milder
climates planting may be a success
all winter. In climates where
spring is early and apt to linger, success
will follow at that time. Evergreen
plants can be successfully moved later in
the spring than deciduous ones, and
hollies transplant better in May, when
the new growth begins, than at any
other season. Conifers require about
the same treatment as deciduous plants,
and, like them, can be successfully
moved at any time during the winter
whenever the weather is favorable.

(Continued on Eighth Page.)

Potatoes and Field Roots for Fattening Lambs.

This experiment relates to the feeding of lambs bought upon the Montana ranges. The lambs were purchased at Culbertson, Montana, from Wm. B. Shaw, the manager of Prospect Ranch. They had been reared on the open range and were part of a lot brought in from the range in the autumn of 1897.

Chief among the objects sought were the following: 1. To ascertain the value of potatoes, mangels and sugar beets respectively as food factors in fattening lambs. 2. To ascertain the outcome from feeding very ordinary range lambs under what may be termed high pressure feeding. There were also secondary objects sought, but of a less important nature. The behavior of the lambs on the diet of roots was the feature of the experiment. Potatoes are largely grown in our state, and in some seasons, as for instance, in 1895, the price falls so low that the marketing of the potatoes is of doubtful advantage. These conditions have very naturally begotten a desire on the part of the farmers to know their precise value in feeding and their relative value for the same use.

The lambs chosen were what might be termed the tail ends of a lot of 300. They were not really culls, but were small in size, and not of so good form as were the major portion of the entire lot. They weighed, on an average, 49.7 pounds when the experiment began. They were from Oxford Down grade sires and from dams that were essentially Merino grades in breeding. They were a little flat of rib and long of limb.

They were divided into three lots of 12 each, as 36 in all were fed. Each lot had a small department of the pigery. Eight feet, and all had access to a small yard, 8x20 feet, on the sunny side of the pigery. They were plentifully supplied with water and salt in addition to the other food named. They were weighed every two weeks. Those to which the potatoes were fed are spoken of as lot 1; those to which mangels were referred to as lot 2; and those to which sugar beets were fed are designated as lot 3.

The grain portion of the food consisted of corn, barley and oil cake, fed in equal parts by weight. The hay was clover and timothy, the former predominating. The lambs in lot 1 were fed potatoes, those in lot 2 mangels, and those in lot 3 sugar beets. The grain was fed whole and the hay uncut, and they were given of each what they could eat up clean and no more.

The food was estimated at average market values in the state. These were as follows:

Hay, per ton, \$4; oil cake, per ton, \$22; corn, per bushel of 56 pounds, 22 cents; barley, per bushel of 48 pounds, 20 cents; potatoes, per bushel of 60 pounds, 20 cents; mangels per bushel of 50 pounds, 5 cents; sugar beets, per bushel of 50 pounds, 5-12 cents.

These valuations would make the potatoes 33 cents per 100 pounds, the mangels 10 cents, and the sugar beets 11 cents.

The time covered by the entire experiment was 117 days. The preparatory period began Nov. 15, '97, and covered 7 days; the experiment proper covered 98 days. The lambs were sold when fattened to P. Van Hoven, to be retained in the Twin City markets.

The evenness in the amounts of the foods consumed was very marked. Out of a total of 12457 pounds eaten the extreme of difference was only 47 pounds, and this was chiefly from the more grain consumed by lot 3. The average total of food consumed per day was 3.62 pounds; the average amount of roots consumed per day was practically the same by the lambs in each lot. In all instances it was relatively small, not exceeding 1-1/4 pounds per day, notwithstanding that the lambs were given all that they would eat up clean. Although the amounts consumed by the lambs was practically the same, the cost of the food consumed by the lambs in lot 1 was \$5.31 more than that of the food fed to the lambs in lot 2, and \$3.09 more than that of the food fed to the lambs in lot 3.

During the 98 days' feeding of the experiment proper the profit made on the lambs in lot 1 was \$8.50, on the lambs in lot 2, \$11.13, and on the lambs in lot 3, \$13.26. In figuring this profit the lambs were charged virtually at what they had cost when the experiment proper began. This was \$3.34 per 100 pounds, and they were estimated at the close of the same period at \$5 per 100 pounds, the price for which they were actually sold on March 12th, '98.

The total average profit made by one lamb in each lot during the experiment proper without any shrink in weight, was as follows:

Lot 1, 49.6 pounds; lot 2, 49.8; lot 3, 49.6.

At the close of the experiment these weights had increased to the following: Lot 1, 82.5 pounds; lot 2, 80.4 pounds; lot 3, 84.2 pounds.

The average gain, therefore, on the lambs for the 117 days' feeding was 32.9 pounds, 30.6 pounds and 34.6 pounds respectively; the average gain made per month during the experiment proper was 9.2 pounds, and during the entire period of feeding, 8.4 pounds; the average cost of making 100 pounds of gain during the experiment proper was \$4.33, and during the whole feeding period, \$4.51.

A noticeable feature of the experiment is the relatively high cost of the grain portion of the ration. While the grain fed during the experiment proper amounted to \$82.79, the cost of the hay was only \$5.73 or not much more than one-sixth as much. It is also to be noted that while the mangels fed cost only \$1.46, and the sugar beets \$1.61, the potatoes cost \$1.95.

During the experiment proper a profit of but 17 cents was made on the increase in weight over the cost of food used in making it with the lambs in lot 1. With the lambs in lot 2 it was \$2.72, and with those in lot 3 it was \$4.30. Happy is the country that can furnish foods so cheaply as to make any profit possible on the increase weight made during the fattening period.

The cash returns for 35 lambs, for one died during the experiment, was \$137.06. The entire outlay for the lambs and for the food fed to them was \$111.45. Hence, there was a profit on the 36 lambs of \$25.61 or 71 cents per lamb. The lamb that died was in the lot to which mangels were fed. It died but three days prior to the close of the experiment proper. The trouble was urinal in character, but whether it was in any way associated with the feeding of the mangels is not clear.

On the better lambs of the same shipment a net profit of \$1.49 per lamb was made during an experiment that was simultaneously conducted. But the more favorable result is not to be attributed entirely to the superior development of the lambs. It is rather to be attributed to the use of cheaper foods. But it is true, nevertheless, that the lambs in the experiment referred to sold for 50 cents more per hundred.

The average value of each lamb in Montana was \$1.62; the average selling price was \$3.89, hence the average advance in value over the cost price \$2.27.

The conclusion, therefore, is legitimate that the food factors fed in this experiment gave very satisfactory returns, even with lambs that were under rather than over the average. The further conclusion is also correct that potatoes are a much more costly food to use in fattening lambs than either mangels or sugar beets. They would seem, however, to be almost equally useful in producing gains.

THOMAS SHAW.
University of Minnesota.

Practical Pointers for Profitable Dairying.

Winter dairying is now much more practicable than formerly, farmers thus taking advantage of the usually higher prices prevailing for dairy products. Still it is yet true that much the largest quantity of milk is produced at this season of the year, and the season brings its own peculiar trials in producing a high quality of butter or cheese.

IMPORTANCE OF CLEANLINESS.
Milk is much more susceptible to damaging surroundings and changes in hot than in cold weather. This we find true in caring for the cows and stable conditions. The chemical changes which take place in the urine and other droppings of the stock are rapid, and to keep the stable passably clean and sweet, and cows free from filth, especially for the first few weeks after turned to grass, requires a good deal of care and painstaking. Acid germ life, and worse yet, the microbes of taint increase with amazing rapidity in hot weather. The various work of the farm presses ill after having is over, and it is not unlikely that if the care of the cows and milking is entrusted somewhat to hired help, that neglect in some of these matters may cause serious loss.

PURE WATER ESSENTIAL.

The water supply of the pasture has much to do with the quality of the milk. Farmers are liable, at this season of the year, when farm work is pressing, to neglect essential things in certain directions. "Out of sight, out of mind," is true of this matter of looking after the water the cows have to drink in hot weather. The running brooks which give a fairly good supply of water in May and the first of June, dry up as the weather becomes hot, and the cows are found drinking at small stagnant pools where tad-poles and other water vermin swarm. And when slaking their thirst the cows stand in these shallow pools, leave their droppings there, and this water becomes foul in the extreme.

Frequently when one or two living springs are found in the pasture, neglect

to properly conduct the water, by spout or pipe, to a drinking trough, finds the same foul conditions present. Spring brooks or mud holes, or stagnant water on any farm, should never be the source of water supply for the dairy cows.

TAINT IN MILK.

Tainted milk is a very different condition from milk acid, or in a condition of bacterial ferment. Both conditions, of course, are undesirable, but the former is a menace to health and even life. Too much pains can not be taken to prevent conditions which cause taint in milk. Next to this are conditions of cleanliness in the care of utensils which are used in the handling of milk. This is particularly true in cases where milk is kept on the farm over night. This involves extra labor in keeping the cans, pails and pans properly scoured and scalded. Hot water in hot weather, the hotter the weather the hotter should be the water used in cleansing the milk utensils.

QUALITY, NOT QUANTITY.

The farmer should not forget that the conditions upon which the quality of the butter and cheese sent to market depends, lie largely with him, because, to have good butter and cheese he must begin with the cow. Hence, the first step must be taken at the farm. The start is made in the care of the cows, the kind of food and water given, neatness and ventilation of stables, and many other things. This is the root of the matter, and of equal importance in the making of first-class dairy goods is, that the milk or cream be free from all dirt, taint, or deleterious flavor from whatever source—feed or surroundings. Many farmers fail to understand the importance of this matter, and so destroy, to a certain extent, the value of the goods. Farmers and dairymen need to be more fully impressed with the fact that consumers, and consequently the market have become exacting on the point of quality of product. Only the first-class butter and cheese holds supremacy in the market, and make a reasonable profit to the producer.—L. J. Abbott in Practical Dairyman.

With the change to butter making, we shall need a breed of cattle better suited to our purpose, and we now think very favorably of the Guernseys.—Hoard's Dairyman.

Improving and Caring for the Dairy Herd.

When we came in possession of our farm it was stocked with native, or what are called here, "scrub" cattle and the owner had for years used a "scrub" bull; in fact he had given the matter of improving his cows no attention whatever. Every year he had bought a cheap bull, then at the end of the season sold him for beef. The result of several years of this kind of breeding was the poorest dairy of cows that I ever knew. I was a young man then, and knew but little about the business of dairying, but when my brother and I bought the farm and stock, and tried to make a living, and pay a mortgage from an income of these cows, we learned something about the difference in cows. We found farmers who were making from two to three hundred pounds of butter per cow in a year, and from our cows we could not make over one hundred pounds of butter, and give them about the same care and feed as the farmer who made two hundred pounds. We began to consider the matter of replacing our native cattle with thoroughbred cattle, and a choice of the breed best adapted to our purpose. At that time the farmers in my locality were just beginning to ship milk to New York City. The price of milk then for the winter months would average about four cents per quart. We now had silage to feed our cows, and we decided we could make more money selling milk in the winter than we could making butter in the summer, and that the breed of cows best adapted to our purpose was the Holsteins. We could not afford to sell our native cows and buy the thoroughbred Holsteins, as the difference in the prices was too great for us to pay. We finally obtained a few grade Holstein cows, and paid a neighbor for the service of a thoroughbred Holstein bull. In this way we got some very fine calves.

Our neighbors, who were shipping milk were buying their cows, but as the kind of cows we wanted cost too much for us to buy, we decided to raise them. We soon bought a thoroughbred bull, and each year kept all the better calves from our best cows, feeding them on new milk for two or three weeks sometimes buying skim milk of neighbors who made butter, and supplementing the milk with hay tea and linseed meal until they were old enough to live and grow on the grain, and grass, and hay.

Our experience has been, that when we have sold our milk, it has been more profitable to raise our cows, so we make the selections in breeding we wish to, even if it costs more to feed the young calves. In keeping a dairy of forty cows, I would raise eight or ten better calves from my best cows, and I want the cows served with a bull from a cow also noted for her good qualities. It affords one greater pleasure to care for a fine herd of thoroughbred cows, and if they have been bred for the purpose for which you want them, by a process of selection extending through many years,

it is evident that they will be more profitable.

Our cows in the winter are fed hay in the morning, grain at noon and silage at night after milking. The grain ration we like the best is composed of two parts wheat bran and one part cotton seed meal, but we sometimes feed hominy and gluten, if we can reduce the cost of our milk by doing so. In the coldest weather we water the cows in the stable. Spring water is brought to the barn in pipes, and fixtures have been put in for running the water through the mangers. The water is also conveyed to the small building attached to the stable, in which is the vat for cooling milk, and a place for washing milk cans.

The stable was made very warm by double boarding it with building paper between the boards. The outer boards were matched, planed and painted. One can sit and milk in the stable in the coldest day and be entirely comfortable.

We formerly shipped our milk directly to a dealer in New York City, but with the advent of creameries, and a condenser near us, we have not lately done so. Because of the low price of milk for the last few years, the work of delivering milk to the railroad station, a distance of three miles, or to the creamery at the same place, we expect to return to butter making. We have a never failing spring of water, with uniform temperature of 45 degrees Fahrenheit, a Cooley creamery, swing churn, and other utensils for making butter. We have made some prints for the village trade, and we think we can find customers for all we can make, in all the villages around us, but we shall put it upon the market demands. We want our skim milk for calves and chickens, and our dams at home to work instead of delivering milk.

Water Sprouts in Apples.
The question whether it is wise to use water sprouts of the apple for grafting purposes was asked me recently. By water sprouts, my inquirer referred to the lengthy shoots which often spring from large limbs in the centre of apple trees. These shoots are excellent looking material for grafting purposes, making clean scions, just what grafters desire to use. I answered the question in the affirmative, knowing of no reason why the shoots should not be used. There is an impression, I am aware, that trees raised from such shoots are longer coming into bearing than those from wood from other parts of the tree; but who has ever tried experiments to prove it?

In other lines where experiments have been tried, results show that there is no reason whatever for rejecting this wood. Some years ago, when rose-growing by florists was being initiated on a large scale, it was a much discussed question whether or not it was wise to propagate from cuttings of blind wood. Blind wood in florists' language means the strong shoots from the center of rose bushes which grow and grow, yet do not flower. It was decided by some of the largest growers of that day, and it is, I think, the general belief today, that this blind wood is just as good as any other part of the bush, young plants raised from it blooming as freely as could be desired. It seems quite reasonable to suppose this would be the case. Neither the water sprout of the apple nor the blind wood of the rose is of the nature of a variation. Both contain the essential characteristics of their types, without any tendency to vary. The water sprout of the apple is but such a strong shoot as would result from the pruning of a strong branch, and the blind wood of the rose such as is often seen springing from the central portion of a plant, where a strong dormant bud sees a chance for a start.

Were these shoots variations, the result would be very different. Many a tree and plant does show branches varying in character from the type, and, certainly, propagating from these shoots would result in perpetuating the variation.

Poor and Weak

Catarrh and Bronchial Trouble—Had no Appetite—Now Better in Every Way. A. Delicate Child.
"Some time since I took a sudden cold and could not get rid of it. Being subject to catarrh and bronchial trouble I coughed terribly. I lost my appetite and grew poor and weak and I did not feel like work. I began taking Hood's Sarsaparilla. In a short time the cough disappeared, I slept well, had a good appetite and I was better in every way. Last spring I was not feeling well, but had no appetite and no strength. I resorted to Hood's Sarsaparilla and soon felt more like work. My little nephew was a delicate child and had a humor which troubled him so he could not rest at night. He has taken a few bottles of Hood's Sarsaparilla and now he has a good appetite and is able to sleep." Miss ABIR J. FREEMAN, South Duxbury, Mass.

Hood's Sarsaparilla is the best after-dinner pills, aid digestion. 25c.

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In many an orchard may be found an apple or other fruit tree which does not bear as well as others of its kind do. I should not care to propagate from such a tree. It is quite true that the chances are that soil or other things are not to its liking, and that its wood, used for grafting, would give trees of the usual bearing character; but there may be a chance of some variation having occurred, and it would be better to take no chances. It is undisputed that varieties have occurred in this way in ornamental trees, a branch developing some new character, which nurserymen have fixed by propagating from it; indeed, a great number of varieties in nurseries have been the result of branch variation.

No doubt variations in fruits are occurring in the same way, but are not suspected. An apple branch may have different looking fruit from the rest of a tree without a thought by any one that it is a permanent change. Were grafts from this sort to be taken, in many cases a new sort would be the result. In this vicinity, where the Seckel pear originated, there are certain trees of it which at no time bear fruit equal to that of others. Some persons insist that there is an inferior sort in cultivation; others that it is but soil and situation. I incline to the latter belief, and yet, when I want grafts, I find myself going to the trees which bear the best fruit.—Joseph Mehan, in Country Gentleman.

Potatoes will keep best at a low temperature, a little above freezing. Many potatoes are spoiled by being kept in too warm a place during the early fall and late spring. They should be kept in a dry place. If it will keep dry, a deep cellar is preferable for the reason that it is more likely to have a low uniform temperature, and will not be reduced to freezing temperature so readily as more shallow ones. The bins in a potato cellar should not be too large. A 300-bushel bin should be the largest size used. Smaller ones would suit better. Slatted floors for the bins and slatted walls between the bins, which allow the air to pass around them, are better than close walls or floors. The circulation of air which they allow keeps the potatoes dry and prevents heating.

It is not a good plan to put potatoes in the cellar as soon as they are dug. It is better to put them in pits in the field until the weather gets cold enough to freeze the ground a few inches deep. In pitting them temporarily, if the ground is wet, put the potatoes in a conical pile on the surface, but, if the ground is dry, dig a shallow pit for them and use dirt out of it for covering. After the potatoes have been placed in an even conical pile cover them with a layer of pea or other straw about four inches thick and then cover them with from three to five inches of dirt. In such a pit potatoes will keep well through a severe frost.—Farming.

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BE A PIONEER MINER

And Get in Before the Spring Rush and Receive Advantage of its Influences.

COPPER STOCKS ARE BOOMING.

THEY ADVANCE IN BOSTON IN THE FACE OF THE WAR SCARE.

Condensed from the "United States Investor," Boston, March 5, 1898.
The market for copper stocks is booming. While the Maine explosion caused all other securities to rapidly decline, they showed unparalleled strength. The non-dividend payers even are advancing. Copper has advanced to twelve cents a pound, which means enormous profits. Consumption of copper is advancing faster than its production. In January England, France and Germany consumed more copper by 4,473 tons than the entire production of the United States. The visible supply in England and France decreased 2,093 tons during January and February.

Higher prices for copper stocks are confidently predicted.
Boston & Montana has advanced from 15 cents in July, 1893, to \$1.88 in March, 1898, and Calumet & Hecla between the same period from \$2.47 to \$5.40. Copper stocks are higher than when copper was 17 cents or 5 cents per pound higher than now, which illustrates a conviction that the immensely increased demand must greatly advance the price of the metal.

IMPORTANT NEW COPPER DISCOVERIES IN COLORADO ONLY.

In recent years no new copper discoveries of importance have been made in the entire world except in Colorado. These are now causing a great rush to the

PARADOX VALLEY.

THE KENDRICK PROMOTION COMPANY

sent a representative at the earliest moment into this new district and secured over two miles in length of the largest veins discovered, also a tunnel site controlling 3000 feet square of ground of immense value. The ore carries a high per cent in copper and in addition paying quantities of gold and silver associated with the copper.

For the purpose of owning and working these claims THE PARADOX COPPER-GOLD MINING COMPANY has been organized with a capital of 1,500,000 shares of \$1.00 each, full paid and non-assessable stock, carrying no individual liability; all the claims, free from debt, have been decided to this company which has no debt and \$2,000 cash in the treasury. One-half of the whole capital stock, 750,000 shares, has been placed in the treasury of the company to be sold for the purpose of raising money with which to develop the property. Only 100,000 shares of the treasury stock will be sold at \$30.00 per thousand shares; the next 100,000 shares will be offered at not less than \$75.00 per thousand shares.

The Kendrick Promotion Company has been in the mining stock business in Denver for the past twenty years, and during that time has handled many of the large mining propositions of the state, with large profits to its customers, and has no hesitation in recommending this as one of the most promising that it has ever presented to the public. We anticipate that this stock will be quickly taken, and it will therefore be necessary to send in orders without delay.

We handle all stocks listed on the Denver and Colorado Springs Exchanges.

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Denver, Colorado, U. S. A.

Our weekly mining letter sent to all applicants.

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RANDOLPH & CANAL STS., CHICAGO.

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JACOB GRAVES & CO.

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DOGS, FANCY FOWLS,
PIGEONS, CANARY BIRDS.

RABBITS, and GUINEA PIGS,
MEDICINES FOR DOGS AND BIRDS.

A MAJOR CURE WHICH BRINGS THE WORLD
Also Seeds of All Kinds.

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Registered Jersey Cattle for Sale at reasonable prices.

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RED TAMWORTH AND
DUCRO-JERSEY PIGS

DUCRO-JERSEY PIGS
(The ideal bacon crop for profit)

Stock, (ready to leave) on hand and for sale.
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GREAT BARGAINS
LEADING BREEDS THOROUGHBREDS.

CALVES, LAMBS, PIGS, POULTRY,
GEES, DUCKS, TURKEYS, WHITE GUIN-
EAS, CANARY BIRDS, PEA FOWLS,
DOGS, CATS, and PETS.

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Farms for Sale.

A MONEY MAKER. 220 acre farm, 2 miles from Attleboro, one of the best farms in Massachusetts. The quality of the home market and the convenience to Boston makes this a most valuable piece of land for poultry and vegetable raising, as well as for summer homes. For list of prices and prices, address J. A. Willey, 10 and 12 Federal St., Boston.

Apple Orchard. Wanted a small well located place, with young trees preferred. Anyone having such to sell should consult J. A. Willey, 10 and 12 Federal St., Boston.

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POULTRY.

Boiled Grain.

Some growers fatten their fowl upon boiled grain. The cooking makes it more easily digestible.

Two quarts of oats boiled make three and one-half quarts; two quarts wheat make five quarts; two quarts rye make seven and one-half quarts. This equivalent will assist in making rations of cooked grain.

Good Bulky Food.

The late growth of grass, if cut now will make poultry food this winter. Scald it and let it stand over night. The next morning add mixed ground grain. A bucket of hay with a quart of ground grain will be enough for about thirty hens. Hens will do very well on it if given no other green food.

Turkey History.

Turkey is from a Hindoo word meaning peacock, and at the time of the discovery of America the turkey imported from the new continent were called American peacocks. The Jew poultry merchants who adopted the Hindoo name, called them "tutki," which became the modern turkey. The word was formerly spelled "turky."

Roup.

One of the most dreaded diseases among poultry is that of roup, which usually begins with a cold. All fowls are subject to colds, as well as human beings, and should have the same attention that we give to ourselves; for should we neglect to apply a remedy when we take cold the result might be quite serious. The same will be applicable in case your fowls take cold, which may be brought about in numerous ways, viz: roosting in damp quarters, cold draughts of air. The affected fowl should be removed and placed in a dry coop. Cleanse the discharge from the eye passages every day and bathe the head and throat in kerosene every day. The small syringe sold for the purpose by the supply houses is convenient. Severe cases should be fed with soft food. Only valuable fowls are worth spending much time to cure.

Keeping Eggs.

ED. MASSACHUSETTS PLOUGHMAN: Dear Sir: Having long been a reader of your excellent paper I venture to ask a question: How can I tell good eggs, and is there a way to pickle eggs, which you can recommend? I want plenty of eggs for Thanksgiving and the next two months.

Hudson, Mass.

[The following is a sure way to preserve eggs sufficiently well for most cooking purposes: Dissolve one pint of fresh slacked stone lime and a pint of salt in three gallons of water, by boiling. Drain off and it is ready for use. Put the eggs in carefully when fresh, so as not to crack the shells. Eggs pickled in this will keep well and are nearly as good as fresh eggs for frying or boiling, but not quite so good for cooking purposes. Eggs may be kept in a line solution in a butter firkin as well as a barrel. The keg may be kept in a cool place. It is best to put the eggs all in at a time, making a fresh solution of lime when fresh eggs are put in, so that the fine particles of lime will coat the eggs and exclude the air. As to testing eggs, it is no use to try to preserve eggs which are at all doubtful. Take fresh ones. Eggs are tested by holding up to a light, also by floating in salt water. Fresh eggs sink deepest. Ed.]

Dressing and Marketing.

Everybody who goes to market to buy poultry naturally picks out the best he can see, and hesitates to buy poor looking stuff at any price. Hence poultry that makes a good show always sells easily, and at better prices. The poultry should be dressed and packed according to some definite plan so that the lot will be uniform. If there are a few poor birds they should be kept at home; they will injure the impression made by the rest of the crate.

Do not feed for twenty-four hours before killing. The approved method of killing is to make a cut at the back of the roof of the mouth with a double-bladed knife or lancet. The blade is passed through the end of the backbone, dividing it and causing instant death. There should be free bleeding or the meat will not appear well or keep well. A great many fowls are sent to market killed in the old-fashioned way of cutting off the head. Prepared in this way there is, of course, some loss of weight. For all New England markets fowls are wanted dry picked. Private customers will usually make no objection to scalded fowls. To dry pick begin while the body is still warm. Commence with tail and wing feathers, then breast and back, and finally the legs. If the feathers are to be sold, sort them according to kind

Little Giant Separators



Vantages of the

BRANCHES: P. M. SHARPLES, Toledo, O. Omaha, Neb. West Chester, Pa. St. Paul, Minn. St. Louis, Mo. Dubuque, Ia. San Francisco, Cal.

An increasing number of poultry growers near Boston are selling their produce by contract to hotels, restaurants, clubs and provision men. One Middlesex County man gets \$1 each for his chickens. Another 75 cents each for smaller ones. Others get good prices for eggs, supplying a fixed number each week.

Fowls are obliged to throw off much of the waste of the body through the lungs. They do not sweat but instead breathe several times faster than sweating animals when heated. To keep in good health a hen requires nearly seven times the amount of fresh air in proportion to its size as does a horse.

The pure-bred poultry business abounds in close competition, but the demand has also increased greatly of late years. There is probably as good a chance as ever for a young man to establish a reputation and become a noted breeder if he choose a breed whose popularity is increasing, and has sufficient brains and enterprise to push the business. It is not a matter of luck. Well known breeders are men whose ability would have brought them success in other lines.

Muscovy Duck Raising.

The first considerations before keeping ducks are:

1st. Is there plenty of shade?
2d. Can the ducks have plenty of water (not necessarily to swim in)?
3d. Are there many wild animals about?

The former is absolutely imperative to success.

The second is to be greatly desired.

As to the third, unless the contemplative keeper takes the precautions necessary, if he misses any of his flock he needn't be surprised.

THE DUCK HOUSE.

I have a duck house twelve by twenty-five feet, with a pitch roof. It is built of yellow and white pine, and elevated some sixteen inches to two feet above the ground. The ducks like to run under it on a very hot day, and there the air has free circulation. The house may be of any height, but I prefer eight feet at the high end. The windows are about nine feet long by three feet high. The door is placed between the two windows, and is reached by steps. My duck house is located on a gentle slope, and, of course, is higher at one end than at the other on a level, but the hill, making it further from the ground at one end than the other; I board up part of the space between the floor and the ground at the lowest end because if it is left open the ducks will lay back in it, and the eggs could not be reached except by a long pole, which would ruin them for hatching purposes. The roof I cover with two-ply paper.

CONSTITUTION.

Anybody who knows anything about the subject knows that ducks are much harder than chickens. To be sure, they do not lay as many eggs as hens, but I believe that anywhere in the market ducks bring higher prices than chickens. Ducks do not need such an elaborate house as hens.

MANAGEMENT OF LAYING, SITTING AND LITTLE DUCKS.

Muscovy ducks are poor layers. If left to themselves they will at the most lay twenty eggs, and once I had a duck that laid two eggs only, and then went to sitting; and it is not at all infrequent to have them lay no eggs at all, and then incubate on the bare floor. As a rule the duck picks the down from her breast and lines the nest with it. For nests I prefer barrels laid on their side, although anything may do that will keep the ducks apart.

When a duck goes to sitting she may be told from the others when off the nest by the curious noise she makes. She shrivels herself up, the nakedness around the head being bright yellow or salmon looking instead of clear red, and when another duck approaches with a sign of hostility she lowers her head, and with a loud whistle, runs at her, making herself disagreeable. If the duck is disturbed on the nest she hisses not unlike the blowing of a pair of bellows; and if the finger is put towards her, she will seize it, generally making that organ ache; but, as to all things, there are exceptions, and some ducks will be as gentle as a Cocker Spaniel. The incubation lasts from twenty-nine to thirty-five days. When the ducklings are all out they should be let alone for twenty-four

hours. At the end of this time I give them bread soaked in milk, and mixed with hard boiled egg chopped fine.

When the duck leaves the nest she should be conducted to some place where the ducklings cannot reach the pond, (if you have one). I find the Hoff patent poultry coop as good as anything—but see that there be a plentiful supply of fresh water to drink. Continue the eggs and bread diet for five days, and then give them a mash composed of equal parts corn meal and middlings (bran). Ducklings well fed will weigh very often six, seven, eight, nine and even ten pounds when three months old. The pen belonging to the house encloses an acre of land, and will hold twenty-five ducks.

I have seen in Farm-Poultry the advertisements and praises of the gigantic Pekin ducks of Weber, Hallock, Rankin, etc., but I don't think that any duck can beat (I don't say equal) the Muscovy as to size and flavor, hardiness and beauty, bringing up all the breeds of ducks.—Farm Poultry.

How Should Farmers Keep and Sell Poultry to Get Best Returns?

It has been a custom for some writers to allude to farmers as being an ignorant, uneducated class, not capable of understanding the advantages before them. Such is not the case, nor never has been. It is true, there are localities where they do not avail themselves of the privilege of getting an education, but take farmers as a whole, and you will find there is no class of people better educated or better informed on the topics of the times than the farmer.

Some of our best statesmen, ministers, judges, lawyers and doctors came from the farm. In the business world some of our most enterprising and successful business men came from the farm. When our country has been in need of men to obtain and uphold our American liberty, the farmer boy was the first to respond, and so heroically fought for what seemed right to him, knowing no defeat. So I feel, when talking to farmers or to a farmer's family, that I am talking to an educated, progressive class of people, worthy of the very best this land of ours affords, and they are going to have the very best, for they are after it with a determination that knows no defeat. Farmers supply themselves with good literature, and are making a study of good books and papers treating on the different branches of farming.

In rearing and selling poultry, I do not intend to lay down any strict rules and regulations to be followed, but would urge you to make poultry a study, and form rules and regulations of your own that will be simple, plain and practical.

I have been watching very closely the Poultryman method, and find the method used by one will not suit all. The method that will suit you best is the one that when followed out will enable you to raise the best market poultry in the shortest time. You may secure such results by feeding corn, wheat and oats and their products, while your neighbor may secure equally good results by feeding a different ration; so it would be very difficult to lay down a rule suited to all. You should take into consideration about how much food your poultry is able to glean from their range, and supply what they lack of getting enough.

If you are trying to get size and flesh, making them ready for market, then feed fattening foods; but if you are feeding for eggs, then feed food that will produce eggs. There is no need for overfeeding, but that is seldom when fowls have a large range. You may have been getting one hundred eggs a year from your hens. You can double that amount, and it is the last hundred that gives you your profit. I have come to the conclusion that to get the most out of poultry, it must be well fed, and kept growing until marketed. Follow the same principle with your pullets that you keep as layers. Bring her to maturity as soon as possible, and keep her laying until she is two years old, then dispose of her. No need of keeping and feeding her four years to get what eggs we should have in two years, with two years' expenses. I know some of my fancier friends will say "No," but we are farmers now, and raising poultry, not keeping a few hens for their fine feathers, although I always have and expect to advocate the keeping of poultry on the farm as the most profitable.

I would not say to you because you have not thoroughbred stock, to give up until you are able to spend twenty-five or fifty dollars buying it. That will do for a man with a big bank account, but farmers can't make money buying fancy fowls at high prices.

There are several good ways to obtain thoroughbred poultry. I consider it the best plan to buy one male and about four to six females, as you feel able. You should get them from good, true stock for from ten to fifteen dollars. Some breeders may say to you fifteen dollars for a male, and five dollars for hens; but remember we are after poultry that will make us money. Yard them to themselves, and set the eggs under your common hens, and you should raise from one to two hun-

dred thoroughbreds the first year. Then dispose of your common stock, and you will have a good start of thoroughbred stock at a reasonable outlay. A still cheaper way can be taken by buying a sitting or two of eggs. You can get eggs from good stock for one dollar and fifty cents to two dollars and fifty cents a sitting, but that puts you back one year later; but while you are getting your start from your eggs, you need not be idle. Cull out your common hens; dispose of all small and old ones; kill and sell also all males. Get one or two good vigorous thoroughbred males of a larger variety, and you will be surprised at the improvement in your chicks; or if your hens are of a large variety that have not vigor, by too close inbreeding, get males from a more vigorous, lively variety, and it will help wonderfully, and add much new vigor to your chicks. I advise following up this plan until you can do better.

Another very important point is, do not try to do too big a business. Remember, poultry will not stand mobilizing any better than the Cubans. The colony plan works excellently, and you can keep a much greater number if you can divide your flock in colonies. What I mean is this: You may have seventy-five or one hundred around home, and you probably have a barn or sheep house at a distance. Take a few hens and young chickens to them, and confine them until they become accustomed to their new home. Feed them well, and you will soon have a fine flock of fowls. I have known this plan to work very successfully in a number of cases.

In finding a market for your fowls and eggs, sell to private customers where you are situated so you can go to town once a week. I will give you the plan we follow, and find it works to perfection. We have customers who take eggs every week, and we deliver them just what the groceryman sets for, which is always two to four cents more per dozen than our neighbors get who sell to stores, and we have never had enough to supply the demand. As to selling poultry, we always have it engaged before we kill it, and never take any to town unless we have it engaged and know just where we sell it. In delivering on Saturday our customers will ask us if we can bring them a chicken on the following Saturday, and if we can we tell them so, and what kind we can bring. We never disappoint them by not taking the chicken, or in the quality of it, for in selling that way we always keep our flock culled close, and do not keep them till they are so old as to be unfit for the table. That is a very satisfactory way to sell; but where you are so situated that you can't deliver your poultry weekly we would make choice of some good reliable butcher or poultry dealer, and sell to him regularly from year to year, then always have your poultry in tiptop condition, and in a short time he will learn the quality of poultry you sell, and will gladly give you a cent or two more on the pound than he would give you for a scrubby lot—some fat, some poor, some young, and some old. Never offer a mixed lot for sale; always sell young ones by themselves, and old ones in the same way. If you get a good reliable buyer, stay by him. It is the one who is always changing about, hunting around where he can do the best, that does the worst. In selling poultry and eggs, it is not the one who asks a good fair price that gets left, but the one who does not come up to his agreement and deliver the quality of stock he agreed to on time. In six months he will have hard work to sell at any price, while the one who comes up on time with quality as good or better than he agreed to furnish, will force his way to the front and be able to stay there, because he has done to others as he would have others do to him.—The Inter-State Poultryman.

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It teaches how to make money raising poultry and eggs for market. It is edited by practical poultry raisers, who tell their readers how to prevent and cure all poultry diseases; bring pullets to early laying maturity; make hens lay when prices are highest; build the best houses and yards; keep poultry free from vermin; hatch strong chickens in incubators; caponize and dress poultry for market.

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MASSACHUSETTS PLOUGHMAN

BOSTON, NOVEMBER 12, 1898.

Persons desiring a change in the address of their paper must state where the paper has been sent as well as the new direction.

A FANCY package is no use unless the produce is also fancy.

WHAT'S the use of finding so much fault with the way the world treats us? Nobody treats everybody just right all the time, why expect better than we can return.

In election time, it is well to bear in mind that other things being equal a candidate is at least none the worse for being a farmer. More of them are needed in the state legislatures.

SAID a successful farmer: "I had rather get two full crops per year from a single acre than a half crop from two acres and be two years getting that." Yet that farmer might be surprised if told he believed in high farming.

APPLES for shipment to England should include only the largest, soundest apples on No. 1 grade, and the No. 2 grade should include the next best but not the wormy or blighted apples. The fruit should be headed very tightly with a barrel header.

HAVE you a few odd bits of land around the buildings? Now is a good time to occupy them with fruit trees and vines. A cherry tree will almost always flourish in such locations and will give a splendid account of the little piece of waste land it possesses.

THE best line of improvement for a great many farms is to add water to the dry lands and take away some from the wet lands. A little water, more or less, sometimes makes all the difference between a very productive, and a worthless field.

When followed for money and success a city career means tremendous wear and tear of body and brain. A young man of moderate health who would live to be "an old farmer" in the country, stands a good chance of being laid on the shelf in middle life in the city.

THE principle of co-operation is making some progress among the French farmers of recent years. There are some 15,000 associations with nearly three-quarters of a million membership. They buy seeds, grain, fertilizers and implements, getting low prices by large purchases.

Tropical fruit culture will be no new thing in the United States after the acquisition of our Spanish dependencies. Already we have half a million almond trees and twenty-one million pineapple plants. The value of tropical fruits grown under the American flag is about \$20,000,000.

SOUTHERN Alaska, British Columbia, and the islands along the coast of both countries seem to offer a good chance for pioneer farming. The country is a good deal like New England, probably has as great a future before it as that thriving section, yet much of it is wholly unsettled.

THE potato crop of 1898 is of moderate amount and gives no warrant of expectation, either of very high or very low prices. No doubt the quotation will gradually improve as the season advances, but perhaps not more than enough to compensate for shrinkage and risk from rot. The safest plan is to sell at once if there is fear of loss by rot, otherwise to dispose of the crop gradually till spring, on favorable turns of the market.

Why should not the children be taught something about the occupation which more than half of them are to follow? Other nations are wiser in this respect. Ex-Governor Hoard of Wisconsin, speaking of the success in farming of German immigrants in the west, says: "There is one important lesson that I have learned from these German farmers—that is, the advantage they derived in their early education in the elements of agriculture in the primary schools of their native land. The nations of northern Europe to-day patriotically conserve the resources of the state by teaching the boys and girls the important elements of agriculture in their primary schools. The effect is to establish at an early age an intellectual understanding of the meaning of soil and soil culture. If we are to save and maintain the farm, it must be done by primary education in agriculture. We ought to be ashamed to-day that the poor German peasants have a better agricultural education and judgment than our own farmers' sons." Our agricultural colleges are excellent, and supply us with plenty of agricultural teachers, editors and experimenters and even with a considerable number of educated farmers, but we need also a system by which the mass of the people can readily learn some of the first principles of progressive farming.

How's This!

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by HALL'S CATARRH CURE.
F. J. CHENEY & CO., Toledo, O.
We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by him.
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Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials sent free. Price 75c. per bottle. Sold by all Druggists.

CURRENT TOPICS.

The noted economist, David A. Wells, died on Saturday last. Mr. Wells is most widely known as an expert on taxation, his earliest writing on this subject being an essay entitled "Our Burden and Our Strength," published in 1864. Its exhaustive treatment of the subject excited widespread attention and its influence was great. He acted as chairman of a congressional commission to consider the subject of raising revenue by taxation at the end of the civil war, and in 1866, he was appointed special commissioner of the revenue, an office created for him. Here he originated many important reforms, among them the creation of the Bureau of Statistics of the Treasury Department. Originally a protectionist, he became later a free trader. He was a prolific writer of books and pamphlets on economic subjects and contributed much to the magazines, especially to the Popular Science Monthly. Some of his more important books were "Production and Distribution of Wealth," "Robinson Crusoe's Money," "Our Merchant Marine—How It Rose, Increased, Became Great, Declined and Decayed," "A Primer of Tariff Reform," "Practical Economics," "The Relation of Tariff to Wages," and "Recent Economic Changes."

Something of a sensation was caused in Washington on Sunday by an explosion under the east wing of the Capitol, in which is situated the Supreme Court chamber. Although the damage was not as extensive as was at first feared, the building holds such a peculiar place in the regard of the American people that the accident caused widespread regret. The corner stone of the building was laid during President Washington's administration. The British partially succeeded in destroying it during the war of 1812, and it has suffered to a limited extent from fire once or twice since. This latest accident, caused by an explosion of gas, resulted in a marvellously small loss considering the circumstances; the law library which at first was thought to have been irreparably injured, being damaged only to the extent of \$1500. For the first time since 1814, the supreme court last Monday held its session outside of its own chamber.

The returns of the elections last Tuesday show a considerable decrease in republican majorities, which was not unexpected, since this year is the off year, when a reaction usually takes place against the policies of the ruling administration. From the reports now at hand, it is evident that the republican majority in the national house of representatives will be but a small one. New England will be represented in the next congress by three democratic representatives instead of only one as at present. In the state elections, Massachusetts, of course, went republican, Gov. Wolcott being given a handsome majority and the state legislature will be as strongly republican as last year. The greatest interest in state elections centered about the result in New York, where Col. Roosevelt, at the head of the republican ticket, made as gallant a fight as he did at San Juan, and all the forces of Tammany, arrayed against him, failed to bring about his defeat, the state going republican by a majority of 20,000. This victory, following after the defeat of the reform party in New York city, gives great satisfaction to every one who desires honest government. The state election in North Carolina also excited considerable interest, on account of the ill-feeling shown between the whites and the negroes, and the announcement that there has been a democratic landslide in a state previously republican gives color to the statement that it was brought about largely by the intimidation of the colored voters.

A work to which Count Tolstoi, the Russian author and reformer, has devoted his time and energy the past five years, is about to bear fruit in this country. An attempt is to be made to establish colonies of the Russian Dhoukhoborts in this country and Canada. The Dhoukhoborts are a sect similar to the Quakers, opposed to war and fighting. Because of their religious beliefs they have, it is said, suffered much persecution, have been forced into the army and compelled to march continually until they died from exhaustion and exposure.

Aylmer Maude, a disciple of Tolstoi, was engaged in business in Moscow, and became interested in these people. Through his influence and energy, added to that of Tolstoi, an attempt at colonization in Canada has begun. The czar was bombarded with petitions until he finally consented to their leaving the country. In Canada each man is to be given sixteen acres of land and a shed to live in until houses can be built, and provisions for a time at least. According to the edict, all of the sect who leave the country must get out within two years, and every effort is being made to hasten the exodus. Some of the members of the committee in charge of the movement are: William Dean Howells, Jane Addams of Hull House, Chicago, William Lloyd Garrison of Boston, and Rev. Dr. George Dana Boardman of Philadelphia.

The proposition made by the American peace commissioners at Paris, that Spain should cede to the United States the whole of the Philippine group, receiving in exchange only such an amount of money as had been expended on improvements in the islands, met, of course, with a vigorous remonstrance from the Spanish commissioners. Although Spain protests against this demand of the United States, yet it is doubtful if she will carry her protest so far as to break off the negotiations altogether, though such a report has been current. On the other hand, now that the United States has

Houghton & Dutton.

General Household Needs. LAMPS.

Oil Stoves.
"The Best is the Cheapest." There is not another oil stove sold for less than \$6.00 that will heat so large a room as the BROOKLYN TABLE STOVE. It heats a room 20 feet square for 12 hours with a gallon of oil. Nickel oil tank, black and gilt frame and handsome enough for any room. Price \$3.98 each.

Table Cutlery.
200 Sets of Steel KNIVES and FORKS, medium blade, 3-tine FORKS, cocobola handles, at only 29c per set. 29c
240 Sets of polished steel TABLE KNIVES and FORKS, medium blade, 3-tine FORKS, cocobola handles, metal cap and bolster, at only 48c per set. 48c
100 pairs of CARVING KNIVES and FORKS, 9-inch Boston shaped blade, 2-tine serving fork, with patent rest guard, stag horn handles, steel cap and bolster, at only 59c per pair. 59c

Banquet Lamps.
With Capid Figure mounted on large base, with handsome embossed heads, Lamp is fitted with improved center draught burner, and globe tinted and decorated. See illustration. All complete, with globe, for 1.89

Bent Glass Globes.
Special Sale: Something New!
These Globes are composed of a number of pieces of colored glass, set in a round metal frame. They are in a variety of colors, including ruby, amber, malachite, etc. The frame is finished in gilt or gun metal. Globes of this style have never been sold for less than \$4.50 each. We will close out the lot at \$1.98, a very desirable bargain.

Decorated China.

Cups and Saucers. 840 Fine China MOUSTACHE CUPS and SAUCERS, in a new shape, full coffee size, in a choice French transfer decorations. In every respect equal to any 50c cup, at only 24c. 24c

600 China BREAKFAST COFFEE CUPS and SAUCERS, full size, with choice decoration and motto designs. Price to close this lot. 10c

Shaving Mugs. 720 Real China Shaving Mugs, in a choice line of decorations. Your choice while they last at 9c. 9c

Salad Dishes. A large variety of fine selected China Salad Bowls, Fruit Bowls, Nut Bowls, etc., all in choice border and spray decorations. Imported to be sold at 50c each. Special price for this sale. 29c

Comb and Brush Trays. One lot of real, imported China Comb and Brush Trays, with fancy embossed work and hand decorations. Special price for the lot only 19c each. 19c

Jardinières. Special lot of beautiful shaded English, color-glass, Jardinières, in a late shape and very choice colorings. To close at only 69c. 69c

Ink Stands. Decorated China Ink Wells in a very desirable shape and very dainty patterns, to go at 21c each. 21c

Small wares.
First Floor.
Le Page's 2-oz. Liquid Glue.....bottle 8c
Bailey's Rubber Complexion Brushes..... 34c
25c Shoe Blacking Brushes..... 10c
25c Shoe Brushes, with dauber..... 17c
Hair Brushes, manufacturer's stock of Samples..... 12c upward
Fancy Silk Garter Elastics.....3-4-yard 8c
All Silk Garter Elastics.....3-4-yard 15c
Corset Steel Protectors.....each 5c
8-inch Rubber Dressing Combs..... 10c
Aluminum Pocket Combs..... 5c
Black Darning Cotton.....dozen 5c
Silk Belting.....3-4-yard piece 3c
Cloth Covered Dress Steels.....dozen 5c
Best 500-yard Spool Cotton..... 3c
Black Silk Taffeta Cotton.....piece 8c
Celluloid Side Combs.....a pair 8c

Washington News.

DIVIDE THE ROAD TAX.
The office of Road Inquiry of the Agricultural Department has just issued a small booklet compiled by the League of American Wheelmen, entitled "Must the Farmer Pay for Good Roads?" It contains much food for thought to those who travel the country roads and haul loads of produce over them. It is well illustrated with photographic reproductions showing the conditions of some of our own roads and some French and other foreign roads, over which enormous loads are hauled, notwithstanding the clumsy vehicles used. The League of American Wheelmen is a powerful organization, consisting of over a hundred thousand members, who are all, of course, enthusiastic on the subject of good roads. As the demand for good roads becomes stronger, the opinion is becoming more widely held that the farmer should not be compelled to bear the burden of taxation for their improvement. As roads are for the public use, the use of all citizens, whether countryman or townsman, all should bear the cost of their maintenance and the taxes should be equally distributed.

KEEP OUT THE FUNGI.
The state laws of California have undoubtedly averted the introduction into the country of numbers of injurious insect and fungus enemies of the farmer and fruitgrower. All plant and seed importation is subject to a rigid inspection if its destination be anywhere within the confines of the state, and if any new insects or diseases are discovered the inspector is authorized to burn all such importations; in other cases, in his discretion he can fumigate them. In cases where goods are billed through to some point outside of the state, he cannot of course interfere, except in such cases to notify the government agricultural authorities, who then endeavor to follow the matter up in the various states where the goods go, and have protective measures taken in those states. There are many people who think the United States should enact some federal legislation controlling the entire importation into this country of this class of products, the same as is done now in California. It is an undisputed fact that many of our worst weeds and diseases have been introduced and distributed over entire states, by careless importations.

THE CHINCH BUG.
The Chinch Bug is the title of a bulletin just being published by the entomological division of the Department of Agriculture. This pest is one familiar to most farmers in the east, and in fact extends over a large area of the country. Economically it is held to be one of the half dozen most destructive insects with which the American farmer has to contend. The bulletin states that were it not for the fact that heavy rains are fatal to millions of the young of the chinch bug, and also the fact that several species of fungus diseases prey upon the species, killing other millions and hundreds of millions, the pest would absolutely overrun cultivated areas. Numerous experiments have been made, introducing artificially the fungus spores and this has

A FRIEND TO THE AGRICULTURIST.
The black snake is absolutely and unqualifiedly a friend of the farmer. In the neighborhood of election time, practically everybody is a friend of the farmer, but the black snake, in fact, all the non-venomous snakes are, when the weather is warm enough to start their cold blood into life. It is the most natural thing in the world, born of tradition and religious education, to stamp the life out of any snake, but this tendency should be overcome among farmers. Black snakes and garter-snakes eat large numbers of mice and other seed-destroying rodents. In Florida, house snakes are found in every shack and they keep the place clear of rats far more effectively than the best of cats. Some of the non-poisonous species are also the deadly enemies of the poisonous ones. The poisonous from the non-poisonous sorts can readily be distinguished by the teeth. Non-poisonous snakes have two distinct rows of short fine teeth. The poisonous kinds, like the copperhead, rattlesnake, Florida moccasin, etc., have only one row of teeth, but in lieu of the second row they have in the upper jaw, long fangs, which lie embedded in the flesh of the mouth when in repose, but are erected at right angles to the jaw when the snake strikes. Non-poisonous kinds frequently assume the attitude of the poisonous ones, simply acting a "bluff" in self-protection. The common yellow viper or "moccasin" is a striking example.

REMEDY FOR SAN JOSE SCALE.
Word comes from Florida that at last the San Jose scale has met its Waterloo; this in the form of a fungus disease which preys upon and kills it. Experiments have been made in which the spores of this fungus have been artificially propagated and then turned loose on well developed cases of San Jose scale, with fatal effect to the latter, the fungus fastening upon the scale and sucking the life out of them. Experiments, it is stated, have been made over a wide area of the country with an encouraging degree of success.

PURE FOOD LAWS.
It is hoped by the pure-food men that some federal action will be taken by the coming congress looking to the enactment of a general pure food law. The second annual meeting of the National Association of State Dairy and Food Departments was recently held at Harrisburg. The discussion related to the trade in vinegar, and such frauds as oleomargarine and the more recent product, "renovated" butter, which is butter made over and sterilized, from old discarded rancid butter. Resolutions were passed asking Congress to enact proper pure food laws, to prevent false branding of dairy and food products and to extend the authority of the Department of Agriculture to the inspection for export of butter, cheese and condensed milk.

POOR VINEGAR—A FRAUD.
Great quantities of cider vinegar are sold which never saw an apple. For the purpose of making elder, distilled liquor is exempted from internal revenue tax, so that a stock for vinegar, distilled from corn, can be sold for about eighteen or twenty cents per gallon. This will make many times its bulk of vinegar, with slight and inexpensive additions. The product, finally complete and sold as "Cider" vinegar, can be bought by the barrel now for eight or nine cents a gallon. It has a fine color and is sour enough, but is no more like elder vinegar than lard is like butter.

GUY E. MITCHELL.

Read and Run.

—One acre of land will comfortably support four persons on a vegetable diet.
—Redlands, Cal., has a giant mowing machine, which cuts a strip of wheat 50 feet wide.
—One county of Florida alone, Volusia, has an average annual output of 360,000 pounds of honey.
—The price of envelopes is to be advanced, but no difference will be made in the price to the consumer.
—Two of a gang of burglars which had broken into the North Grafton post-office were captured, three escaped and one was killed.
—Since 1853 the United States government has expended in the distribution of seeds and in the promulgation of statistics concerning them \$3,476,802.
—Ground has been broken at Dedham for the construction of the Norfolk Western Street Railway. It has been strongly opposed by leading citizens in the town.
—Within the last five years several millions of the Pacific coast salmon have been placed in Lake Superior. They are now frequently caught weighing ten to fifteen pounds.
—The President in his message to Congress will urge the immediate construction of the Nicaragua Canal, our new interest in the Pacific making this enterprise necessary.
—The strike at the Border City mills in Fall River has come to an end, the union being unable to hold them. There are more applicants for employment than can be given work.
—Thirty per cent of the people of Virginia, mainly negroes, cannot read or write, and fifty per cent of the colored people over ten years of age are in the same condition. But no one can truthfully say that the negro race has not progressed.
—The old steamer Professor Morse, which assisted the Great Eastern to lay the first cable across the Atlantic, is lying at the Fulton Iron Works, San Francisco, and will probably be broken up. She was purchased in New Orleans for \$18,000 to run to the Klondike.

MECHANICS' FAIR

By the "Old Mechanics' Association,"
Huntington Ave.
Boston, Oct. 10 to Dec. 3, 1898.
MORE THAN SIX ACRES OF EXHIBITS—Entertainment, Starting, Fencing, etc.—Showing the Progress and Triumphs of THE MECHANIC, ELECTRICIAN, ENGINEERING ARTIST!
The First Exhibition in the World's History with Electricity as the Leading Feature.
XENOLOGY
Cordially extended to all visitors.
Musical Attractions of a high order of excellence.
Wireless Telegraphy, Exploding Submarine Mines and Blowing Up Miniature Warships.
Moore's "Light of the Future," The Diesel Motor.
The Wonderful X-Ray.
Free Vaudeville Theatre, J. P. Keith's Japanese Tea Garden.
"By far the best Exhibition ever given in Boston."—Boston Herald.
FACTORIES AND WORKSHOPS IN OPERATION.
Horseless Carriages, Steam, Gasoline and Electric.
10 A. M. to 10 P. M.
25c Admission to All. CAFE Always Open.



Boys' Reefers

A good warm Chinchilla Reefer, deep Sailor Collar, Cut Double Breasted, Button to neck. Ages 3 to 8 years.

\$2.00 & \$2.50

Oak Hall Clothing Co.

95 to 105 Washington, BO. TON.



Guns, Rifles & Sporting Goods.

WHOLESALE & RETAIL.
Just received by steamer invoices of SCOTT & GREENE's Hammerless Guns, among which are some light weights, 6 1/2 to 6 3/4 lbs., for bird shooting; also all other makes, American and Foreign, "Colt," "Parker," "L. C. Smith," "Baker," "Forehand," "Leverett," and all others.
The New Worcester, Hammerless, \$25.00
Just now some good bargains in Second Hand Guns, taken in trade.
Also Tents, Camping Outfits, Tourist Knapsacks, Rubber Blankets, Golf Goods, etc., etc.
William Read & Sons,
107 Washington Street.

WANTED

Bush Beans { Red Cranberry Horticultural Goddard
Pole Beans { Brockett Horticultural Red Cranberry Worcester Horticultural
Spring Rye {

Name, quantity, lowest prices and send samples to JOSEPH E. RECK & SONS, Boston, Mass.

—John H. Reagan, the only survivor of Jefferson Davis' cabinet, is living in Chicago, and is almost eighty years old. He was postmaster-general and secretary of the treasury. During the reconstruction period he was an adviser of President Johnson and Secretary Seward. He was born in Tennessee, but went to Texas when a young man. Since the civil war he has been elected representative in congress and United States senator.

—Ramon Blanco, Spanish field marshal and captain general of Cuba, is the last of the longest line of rulers that has existed without a break in the New World since its discovery. From the time of Columbus to the present, there have always been a Spanish viceroy, governor, or captain general, as he is officially known, in Cuba, but Blanco will be his successor. A late despatch from Havana states that the marshal is anxious to go back to Spain, leaving the final details of the evacuation to the second in command.

—The Methodist Freedmen's Aid and Southern Education Society appears to be in a prosperous condition, as evidenced by the reports given at their annual meeting this week. They have paid out more than \$500,000 for education in the South, and there has been a wonderful increase in the churches, their valuations and membership in the South since the beginning of the society's work. The membership of white people has trebled while that of the colored people is eight times as great.

Walter Baker & Co. Ltd., the well-known cocoa and chocolate manufacturers of Dorchester, Mass., have carried off the highest honors at the Trans-Mississippi Exposition in Omaha. Two gold medals were awarded to them,—one for Breakfast Cocoa and one for chocolate preparations, including their Premium No. 1 Vanilla, Caracas, and German Sweet. They also received a silver medal for Cocoa Butter. There have been few international or local exhibitions during the last fifty years from which Walter Baker & Co. have not received the first prize for their manufactures.

Hood's Pills

Stimulate the stomach, rouse the liver, cure biliousness, headache, dizziness, sour stomach, constipation, etc. Price 25 cents. Sold by all druggists. The only Pills to take with Hood's Sarsaparilla.

THE HOUSEHOLD.

THE RIPENED LEAVES.

Said the leaves upon the branches,
One sunny autumn day,
"We've finished all our work, and now,
We can no longer stay,
So our leaves of red and yellow,
And our cloaks of sober brown,
Must be worn before the frost comes
And we go rustling down.
"We have had a jolly summer,
With the birds that build their nests
Beneath our green umbrellas,
And the squirrels that were our guests,
But we can't wait for winter
And we do not care for snow;
When we hear the wild northwester
We lose our clasp and go.
"But we hold our heads up bravely
Unto the very last,
And shine in pomp and splendor
As away we flutter fast,
In the mellow autumn noontide
We kiss and say good-bye,
And through the naked branches
Then may children see the sky."
Margaret E. Sangster.

WHEN RUTH WAS HERO.

"Mother, may I go up and stay all night at Grandma's?" Ruthie's mother laid down her work and thought for a moment. It was what Ruth called one of her "nice, comfortable ways." She never said "no" without being very sure that there was some good reason for doing so; so when it was "no" Ruthie understood perfectly that that ended the matter.

"Why, yes, dear," she replied, presently. "I think it will be a very good plan. You can carry up the yarn she asked me to get for her when I was there yesterday, and you might take her a loaf of my fresh, sweet bread. Grandma always thinks that things taste better that have not been made in the house. It is pretty cold, but you can wrap up and walk fast. You will have plenty of time to get there before sunset."

So Ruth put on her warmest coat and her gay little hood, which made her look for all the world like another Little Red Ridinghood, particularly when she had hung her basket over her arm, and, kissing her mother good-bye, started off on her two-mile walk. "I'll come down to church with them in the morning," she said, turning back as she reached the door. And then waving her hand, she ran gaily down the path, and went skipping off up the road toward the village.

"How I do love unexpected things!" she exclaimed, giving herself a little hug of satisfaction. "It's lots more fun than knowing beforehand. Grandma will be glad to see me," she went on musing as she trudged over the frozen snow, "and that will be nice. Then grandma's things always taste so good, and Aunt Clara will be sure to let me choose the preserves I like best, and after supper I will get Uncle Charley to crack nuts. He does know how to crack nuts better than anybody I ever saw. I'm real glad Aunt Clara married him! Dear me, it is cold!" And she thrust her hands deeper into her muff, and ran all the way down the hill and through the village and up the next hill before pausing again. She had reached the church by this time, and as she stood there in the biting wind to regain her breath she heard the sound of the organ from within.

"Why, there's Mr. Mace practising!" she exclaimed. "I must slip in and listen just a moment and warm my toes a bit at the same time. I hadn't any idea it was so cold!" And opening the door she stepped quietly in, and curled up in one of the first pews, where her eyes as she often did while listening to music, which she dearly loved. The church was perched half way up the hill, and some little distance from the nearest house in the village below. People used to laugh about it being hung up there, and would give strangers who asked the reason, all sorts of funny answers; but the real reason was that the queer old gentleman who had given most of the money to build it with, long ago, when Ruth's grandma was a little girl, insisted that it should be in just that spot, because he liked the view, and said that the air was better up there, which perhaps it was.

To Ruth, curled up in the pew, with closed eyes, a funny thing happened; she fell asleep. Coming from the cold and wind into the warm, comfortable church, and listening to the low, soothing music, had sent her off into dreamland before she was even conscious of being sleepy. The music rose and fell and died away. Mr. Mace closed the organ, and, leaving the church, locked the door behind him, never guessing that he had left his little prisoner fast asleep within. Half an hour, an hour, two hours passed, and still Ruth slept on. The sexton came and tended the fire, and went away for the night, and she never moved, then, nor for a long time after. The sun was still shining when she went into the church; something, not the sun was shining when she finally opened her eyes—something big and red, and it glowed at her through the surrounding darkness. What was it? What could it mean, where was she? Not at home, not in her bed! And yet it was dark, save for that great, glowing eye! Surely the sun must have set!

Ruth sat up and looked about her, bewildered. What was that high thing yonder? It looked like a pulpit—it was a pulpit! Ah, yes, she remembered it all now! She must have fallen asleep while listening to the music, and the red light was the glow from the great stove. But she must get out and go to grandma's at once! And jumping to her feet she walked as quickly as possible, for she was stiff from her cramped position, down to the door, and tried the knob. It was locked fast! and running back into the church, the startled little girl glanced up at the clock, which hung within the light from the fire. Ten o'clock! Then she must stay there all night alone!

To say that Ruth was frightened hardly expresses her condition. She was terrified. The great silent church seemed suddenly filled with strange and startling sounds; and the huge, glowing eye, staring at her through the darkness, cast the corners into deeper gloom, and invested them with imaginary horrors.

But suddenly, as she stood there in the

long aisle, a thought occurred to her. She could ring the bell, as she had often seen the sexton do, and that would certainly bring someone to release her. Springing back into the vestibule, she pushed open the door of the closet beneath the stairs, and grasped the dangling rope. But before she had pulled it once, there came a second thought. If that bell sounded it would rouse the neighborhood for miles around, for it was understood that the ringing of the church bell meant fire. Should she, for a little discomfort to herself, disturb and worry so many persons on this wild winter night? For a moment she stood there, fighting with herself as she had never fought before. Then, dropping the rope, Ruthie turned and went slowly back into the church. If she could only have convinced herself that it was her duty to let someone know where she was! But her mother thought her safe with her grandmother who, in her turn, had no other idea than she was snugly tucked up in her bed at home. No, there was no one to worry about her. But what should she do? How could she endure it? Then presently she made a discovery, which was that she was very hungry, and that reminded her of the sweet bread in her basket. Eating some of it would help pass the time.

As she sat breaking off little bits and eating, she remembered that she had said the afternoon before—how long ago it seemed—that she liked unexpected things. "I am sure I ought not to complain," she said with a little laugh, "for this is the very most unexpected thing that ever happened to me! How glad I am that I did not ring that bell! If I had by this time there would have been a hundred people hurrying here out of their warm beds into that dreadful cold. How nice and warm it is, and how pretty the shadows on the ceiling are!" She had laid her head back against the top of the pew, gazing up at the roof where the glow from the fire cast a bright reflection. And sitting thus, little by little she drifted away again into dreamland.

An hour, two hours had passed. The wind howled, rising higher and higher; but still Ruthie slept. It shook the church; it blew down the chimney, and presently a wilder gust loosened the imperfectly fastened door of the stove and flung it open, allowing some of the red hot coals to fall to the floor and roll beyond the zinc. Ruth slept on, but no longer quietly. She dreamt she was Joan of Arc, bound to the stake, with the cruel flames creeping up about her feet. They had not touched her yet, but the smoke stifled her. She turned and coughed, then started up choking, with a wild cry, wide awake now, to find the church full of smoke.

Quickly as the stiffened limbs would allow, the little girl made her way into the vestibule, seized the bell rope, and pulled with all her strength. Ding! Dong! ding! dong! Out upon the wild winter wind flew the sound; faster and faster fell the strokes. "Fire! Fire!" One after another took up the cry, but still the bell kept up its quick, loud call; still Ruthie pulled and tugged. And so, tugging and pulling, pale and exhausted, but plucky still, they finally found her.

Yes, she had saved the church; there was no doubt about that. On such a wild night there would be no possible chance for it by the time the fire had been discovered from without.

"It was a mighty lucky thing for us that I locked you in, Miss Ruth," said Mr. Mace when he met her the next morning coming out of church. "I think that the village owes me a debt of gratitude, and that I ought to be the hero instead of you, my dear."

But only Ruthie and her mother knew that but for the brave resisting of a sore temptation, the dear old church would have been lying at that moment a mass of ruins; that the real heroism lay, not in the ringing of the bell when she did, but in unselfishly refraining from ringing it when she did not.

"I am glad and thankful that my girl was the means of saving our dear church for us, but I am far more proud of her victory over self. We two know that therein lay the hardest fight and the truest conquest," said Ruth's mother, as she stooped to kiss her after tucking her up the next night.—The Living Church.

Dean Farrar is impressed by the over

whelming output of books, and the

task presented at the outset to the

person who would be "well read."

To such he says: "Make your delib-

erate choice, and do not attempt to read

everything that comes in your way. It

is not possible to know everything about

everything; it is rarely in our power to

know everything about anything. But

very one who aims at self-culture

ought to have selected certain subjects

about which he desires to be as well in-

formed as his opportunities permit.

Armed as his opportunities permit,

amid the vast accumulation of human

knowledge there is not a single subject

—not one period of history, not one sub-

ject of science, not one department of

archaeology—which, if one

desire to obtain a secure mastery of it,

will not require the study of a lifetime.

If one wishes to be a student he must

make up his mind not to attempt too

much. He must set aside whole realms

of knowledge as not coming within the

personal range of his limited faculties

and the short span of human existence.

THE HOME CORNER.

FREE PATTERN.

By special arrangements with the BAZAR GLOVE-FITTING PATTERN CO., we are able to supply our readers with the *Bazar Glove Fitting Pattern* at very low cost. It is acknowledged by every one that these patterns are the simplest, most economical and most reliable patterns published. Full directions accompany each pattern, and our lady readers have been invariably pleased with them in the past. The coupon below must accompany each order, otherwise the pattern will cost the full price.

MASS. PLOUGHMAN COUPON.
Cut this out, fill in your name, address, number and size of pattern desired, and mail it to THE HOME CORNER, MASS. PLOUGHMAN, BOSTON, MASS.

Name.....
Address.....
No. of Pattern.....
Size.....
Enclose ten cents to pay expenses.



No. 7462.—Ladies' Skirt, with Graduated Gathered Waist.

The mode illustrates one of the most popular skirts of the season. Fancy wool veiling is used in its development in dark blue, trimmed at the foot with fine rows of narrow velvet placed above one of wide width. It is worn over a petticoat of Cuban red taffeta. The upper part of the skirt fits the figure closely, five gores being comprised in the pretty shaping, with short darts taken up over the hips. It is cut rounding in front and slopes gradually to the centre at the back. The lower portion is in full flounce style graduated to give the correct length to the skirt, the lower edge is quite straight, and measures about five yards, the upper edge is gathered with a heading and joined to lower edge of the gored upper portion. The fullness at the back can be arranged in plaits or gathers as preferred. Skirts in this style may be made of silk, cotton or woolen goods of light weight, and any preferred mode of decoration may be adopted. To make this skirt in the medium size will require 6-12 yards of 44-inch material. The pattern, 7462, is cut in sizes for a 22, 24, 26, 28 and 30-inch waist measure. With coupon, 10 cents.



No. 7480.—Ladies' Street Toilet, Consisting of Basque Waist, No. 7467.—Skirt.

Not brown poplin is here stylishly portrayed with black and brown mixed plaited braid as decoration. The standing collar and pointed front yoke are of maize colored taffeta that comes already tucked for this purpose. The graceful waist is arranged over glove fitting linings, which with the material close invisibly in centre front. The fronts show the fashionable pouch effect which is now strictly confined to the centre and the whole back is laid in single backward turning plaits from each shoulder, the bands of braid that outline the front yoke continuing to the lower edge of back. The belt that finishes the lower edge of waist is shaped to point slightly in front and sits well down over the hips.



No. 7480.—Ladies' Street Toilet, Consisting of Basque Waist, No. 7467.—Skirt.

The two seams sleeves very slightly flut at the top are decorated with four rows of the braid, a single row with fall of lace from the inside completing the wrist.

The trimming is applied on each front in stylishly curved outlines that seem to connect with the braid on skirt and give the Princess effect now so fashionable.

The stylish skirt delineates one of the most graceful of the new flounced modes. The front goes to the requisite length of the other four gores that comprise the upper portion. It is closely fitted by darts and curved going. At the top, the lowest rounding band of braid that covers the joining seam of flounce to skirt is exceedingly smart and becoming to nearly all figures. A second row of braid follows the same outline widening near the top of flounce. This gown will develop stylishly in a circular flounce to give the requisite length of the other four gores that comprise the upper portion. It is closely fitted by darts and curved going. At the top, the lowest rounding band of braid that covers the joining seam of flounce to skirt is exceedingly smart and becoming to nearly all figures. A second row of braid follows the same outline widening near the top of flounce. 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and philosophy, drama, romance, tradition, satire, ode and song. I have tried all, but I feel that I have not said a thousandth part of what is in me. When I go down to the grave, I can say, like many others, I have finished my day's work; but I cannot say I have finished my life. My days will begin again the next morning. The tomb is not a blind alley, it is a thoroughfare. It closes on the twilight to open on the dawn.—Victor Hugo.

Tell yer swate wife Oi made somme
read like hers to-day and truth it is a

It is necessary that washing and dis-

love and tenderness and patience for those in one's daily life, it is but a dissipation of force and power.—Selected.

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SEAL, HUDSON BAY SABLES, AMERICAN SABLES and BLACK MARTEN our Specialties.

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KAKAS BROS., 34 Bedford St.

THE HORSE.

What Star Pointer's Owner Says.

In an interview at the late St. Louis Fair, Mr. James A. Murphy, owner of Star Pointer, said in response to a question put to him by one of those present: "I deserve no special credit for having brought Star Pointer up to his present speed. To be sure, he is a better horse than when I paid \$15,000 for him at auction, in Madison Square Garden, a year ago; but I think Pointer's speed is due to the 'nature of the beast' and to no unusual methods in training. It is true that there is a great leap between 2.02 1-2 and 1.59 1-4, a greater leap, I believe, than between 2.30 and 2.02 1-2, but that is neither here nor there. The general methods of training are, I am convinced, in the main correct; and it is simply by following those general rules that we have made of Star Pointer the great horse he is."

"It is extremely difficult to keep a great horse on edge all the time; twice as hard as to keep up a 2.10 or 2.20 animal, and it is this fact which all horsemen do not seem to appreciate. A great horse is constructed somewhat on the principles of a finely jeweled watch, delicate and high strung in all his minutest parts. The very fact that we have paced Star Pointer five times within two minutes makes us so much the more careful. In the same way a Swiss watch is handled quite differently from an alarm clock. The mechanisms are distinctly unlike."

"I don't expect to use Pointer very much longer this season, but am going to winter him at my farm at Park Ridge, thirteen miles northwest of Chicago. The work on the great horse does not end in the winter. Every day is the same routine, the exercise, the rubbing down, with the most painstaking attention to the food the horse eats. The trainer should avoid new-fangled notions. He cannot too rigidly insist upon the rules that have been laid down in the experience of past generations."

"The artificial gaits, such as trotting and pacing, are very trying on the fast horse. The delicate nerve structure and the smaller muscles are affected by the least bit of inclement weather, a slight draft of air or inattention between the heats. These little details are the things that make or unmake a horse."

"Owners of running horses seem to think that it makes no difference whether the horses are attended to or not. They have the idea, which is a strange one to me, that there is a peculiar differentiation between running and the acquired gaits. This is a complete mistake. Of course, I should not assert trotting and pacing is not a greater strain than the natural gait. I agree with running men in that. But the same treatment which improves a thoroughbred for the harness track ought, it seems to me, naturally and incontrovertibly to improve him in the same way on the running track. The fact is, I believe, that Gentry, Patchen and Star Pointer are in a sense natural pacers, and that running would strain them more than the gaits they use."

"Race horses are race horses, whether it be pacing or trotting or running. And if the running trainers would treat their steeds in the same careful way we treat ours, you may be sure running records would be considerably lowered."

A Good Roadster.

The horse writer in the National Stockman believes the old time Morgan horse may be made to come near filling the coming demand for a good roadster. The wealthy buyers who like to ride want a horse that stands 15 1-2 to 16 hands high, weighing from 1,000 to 1,200 pounds, sound and straight in in every way, and easily make 12 miles an hour, and can be put to a 2.30 gait. The Morgan will meet such requirements and be a good horse on the farm also.

Nothing equal to GERMAN FEAT. MORGAN horse bedding. Healthy and economical and widely used. C. B. Barrett, Importer, 45 North Market street, Boston, Mass.

Boston Cooking School.

All ingredients in the following recipes should be measured level.

The lesson given at the Cooking School Wednesday morning, November 9, was devoted to the making of pastry in recognition of the coming Thanksgiving season with its variety of pies. Both Puff and Plain Paste were made, which were used in making Bouches Latore, Mushrooms in Baskets and Chocolate Meringue Pie; Sicilian Sorbet was also made at the lesson. The day was not especially good for making Puff Paste, as it was warm, much better results being obtainable in cold weather. Miss Farmer used a new kind of board at the lesson, which had been recommended for making pastry, as the paste would not stick to it. The board was covered with tin, giving a smooth, clean surface, and the results were fairly successful.

In making pastry, good butter and pastry flour should be used. A light delicate touch produces the best results. The use of ice will not be necessary except in warm weather or when the room in which it is made is warm. If ice is used at all, it must be used all the way through, as the paste softens more quickly after being put on ice and the last condition is worse than the first if the use of the ice is not continued. To chill the pastry, fold it in a napkin, lay in a pan and put a pan of ice over it and another underneath. Snow may be used in place of ice, if more convenient. Pastry flour is used because it gives a lighter, flakier and more delicate crust than bread flour, although the latter contains more nutriment, being richer in gluten. But little salt is required, and none at all in puff paste, as it tends to retard the rising; sufficient water is used in mixing so as to leave a clean bowl—the amount varying according to the flour. The softer the mixture can be made and yet have it easy to handle, the better and more delicate the pastry will be. A palette knife is a convenience for mixing. Have the board and rolling pin in good condition, the rolling pin especially, so that it will roll freely and easily. Measurements must be accurate, the flour put lightly into a measuring cup and not shaken down. It is better to weigh the materials than measure them by cups. The lighter the flour, the better the pastry. Butter gives a flavor which no substitute can give, but lard gives a flakiness that the use of all butter does not produce. If lard is objected to, cottonseed oil may be substituted, using one-third less. The recipe for plain paste is an especially good one, which originated with Miss Farmer and the results are somewhat similar to puff paste. This plain paste may be used in many places where the puff paste would usually be used.

Miss Farmer considers the making of a chopped paste more difficult, as it is not so easy to get the batter evenly distributed, and for that reason it is not made at the school. PUFF PASTE.—Wash one-half pound butter (a solid cupful) to remove the salt and buttermilk. To do this, dip the hands first into hot water as can be borne, then into cold water, treating the bowl in which the butter is to be washed in the same way. Put the butter in the bowl and let the cold water from the faucet run over it, working it with the hands until it is soft and waxy. Butter paddles or a wooden spoon may be used if one has a tendency to rheumatism or neuralgia or unusually warm hands. Then take the butter in the left hand, and pat and fold it with the tips of the fingers or the thick part of the right hand, whichever is the easier, until no water flies from it. Reserve two tablespoonfuls of the butter and shape the remainder into a flat, circular piece and lay it aside upon a floured portion of the board until ready to use it. Upon the thorough washing of the butter depends much of the success of the pastry, and it will be found that butter varies very much.

Work the two tablespoonfuls of butter which have been reserved into a half pound of flour (usually about two cupsful) using the tips of the fingers and keeping the flour between the butter and the fingers as much as possible. Moisten the flour to a stiff dough with cold water, toss on to a floured board, and knead as for a small loaf of bread. Cover, to prevent any crust forming, and let stand for five minutes, then pat with a rolling-pin and roll out, using a long, light sweep, into a rectangular shape. Place the remainder of the butter in the middle of the paste at one side, then fold it over lengthwise, as for a turnover, pressing the edges together lightly. Fold one end over, and the other under, giving three layers to the paste, then cover and let stand five or seven minutes. At the end of the time, turn the paste half way round, pat and roll out again, then fold in three layers, cover and let rest five minutes. Repeat this process until the paste has been rolled out five times if to be used for patties, seven times for Vol-au-Vents, letting it rest between each

olding. The more times it is rolled and folded, the lighter and flakier it will be. Care should be taken not to let the butter work through the paste, and if the butter seems to be more on one side than the other, the paste may be folded together lengthwise again, as well as in the three folds. Use as little flour on the board and pin as possible, changing the paste from one place to another on the board frequently to prevent its sticking. In moving it, lift it over the fingers, having them meet underneath, not putting the tips of the fingers through the paste. Roll the paste out and pin clean, wiping them off if the pastry sticks to them at all, and flour again. Roll from you most of the time, with a light, delicate touch, as rolling first one way then the other, will break the bubbles of air which render the pastry light.

Puff paste gives the best results if chilled before baking. A hot oven is required such as would be used for baking biscuit, with the greatest heat from underneath, and it should be carefully watched and turned so that it will rise evenly. The heat should be reduced after the paste has risen, and it should be baked only a delicate brown. Puff paste can be used for the tops and rims of pies (never the under crust), for patties, vol-au-vents, cheese straws, etc. Plain paste is to be preferred, however, to puff paste for the upper crust of pies as the steam from the filling prevents it from rising well. Miss Farmer believes if pies must be had that the crust should first be baked and the filling added afterward thus preventing the serving of a pie with a heavy, indigestible under crust. She recommended baking the under crust for a pie, by fitting the pastry over the bottom of a tin pie plate, and when it is baked, removing it and filling it with such filling as desired. Then cover with the top crust which has also been previously baked.

PLAIN PASTE.—Work quarter of a cupful of lard lightly into one and one-half cupsful of flour, which has been mixed with half a teaspoon of salt, using the tips of the fingers. If one has a warm hand, it is better to cut it with a knife. Moisten to a dough with cold water. Then knead, cover and let stand five minutes. Wash and chill quarter of a cupful of butter as for puff paste, using a wooden spoon for this small quantity. Pat and roll the dough out into a long rectangular piece on a floured board, fold it in the butter as for puff paste, rolling it out three times, letting it stand after each folding. This plain paste would be good if the butter was not washed, but is much improved by washing the butter before using.

BOUCHES LATORE.—Roll puff or plain paste one-fourth of an inch thick, shape into small rounds with a small cutter first dipped in flour. Brush the edges with cold water, and fit on rims also cut one-fourth inch thick. Bake, remove the centres, and fill with the following mixture: Rub to a smooth paste, two tablespoonfuls chopped ham, two tablespoonfuls chopped cooked chicken, two anchovies and three-fourth tablespoonful butter. Season with salt, lemon juice and paprika. Moisten with a thick sauce made of one and one-half tablespoonfuls butter, two tablespoonfuls flour, one-fourth teaspoonful salt, and two-thirds cupful milk; add one tablespoonful grated cheese, and stir over the fire until the cheese is melted.

The anchovies come in bottles and should be washed in warm water to remove all trace of the oil. No salt will generally be necessary in the filling, the ham and anchovies giving sufficient. The mixture in the bouches may be sprinkled with chopped parsley just before serving, or covers of the paste may be put on the top. Veal can be used in place of the chicken if convenient. These bouches may be served for the first course of a dinner in place of canapés.

MUSHROOMS IN BASKETS.—Clean and break in pieces one-half pound mushrooms; cook with three tablespoonfuls butter five minutes, season with salt, lemon juice and white wine (two and a quarter tablespoonfuls of Sunset Sauterne), dredge with about three tablespoonfuls flour, add two-thirds cupful white stock, one-third cupful cream and the yolks of two eggs slightly beaten. Fill baskets made of puff or plain paste with the mushrooms and serve.

The mushrooms used were the Campestre. They should be rinsed, the stems removed and the caps peeled. If the stems are tender, use them also, but not if tough and woody. The paste should be baked over the bottom of small round dishes or moulds to give the basket shapes. Prick them with a fork to prevent blisters forming. If handles are desired, cut short strips of paste and bake over the sides of a round box to give the curved handles.

CHOCOLATE MERINGUE PIE.—Line a plate with plain paste and build up a

rim, fastening around the rim a strip of cloth wrung out in cold water, which will keep the rim in place during cooking. For the filling, scald one and two-thirds cupfuls of milk and add it slowly to one and a half squares of melted chocolate. Mix two-thirds of a cupful of sugar with half a tablespoonful of cornstarch. Then combine the mixtures and add three egg yolks, one whole egg slightly beaten, and half a teaspoonful of vanilla. Strain, and pour it into the plate lined with pastry, first brushing the pastry over with white of egg, to prevent the under crust from being heavy. Bake until firm and when cool, cover with a meringue made as follows: Beat the whites of three large, fresh eggs stiff, add gradually four tablespoonfuls of powdered sugar, then fold in carefully three and a half tablespoonfuls more of powdered sugar. Flavor with quarter of a teaspoonful of vanilla. This gives a thick meringue on the pie, which may be fluted, if liked, with a knife. Dust it over with powdered sugar and brown in a quick oven for eight or ten minutes. This meringue is unlike an ordinary meringue which requires a slow oven for cooking. The Adams House pies are served with a meringue made like the above.

SICILIAN SORBET.—Drain one can of peaches and press the pulp through a strainer. Add to pulp one pint of orange juice, quarter of a cupful of lemon juice, one and a half cupfuls of sugar, and quarter of a cupful of sherry wine. Freeze, using three parts finely crushed ice to one part rock salt. More or less sugar will be needed according to the oranges. Seven oranges usually gives a pint of juice. Apricots may be used in place of the peaches.

The next lesson will be given at the rooms of the Cooking School on Wednesday morning, November 16, beginning at ten o'clock. It will be a lesson appropriate to the Thanksgiving season and will include the preparation of Oyster Bisque, Roast Turkey with Giblet Stuffing, Cranberry and Raisin Jelly, Sweet Potatoes with Sherry, Cauliflower a la Creole, and Fruit Pudding with Currant Madeira Sauce. Single admission fifty cents.

The Boston Cooking School Cook Book

By Fannie Merritt Farmer, PRINCIPAL OF THE BOSTON COOKING SCHOOL, with 35 illustrations, 12 mo. cloth, \$2.00. Thoroughly up to date. Contains 1400 receipts, should be in every household. CHAPMAN DISH POSIBILITIES. By Fannie Merritt Farmer, 16 mo. cloth, extra, \$1.00. SEND FOR CIRCULAR. Little, Brown & Co., Publishers, 254 Washington Street, Boston.

Springer Brothers' Fashions. An important question at this time to all woman-kind is what her new gown and wrap shall be, and no better answer can be given than by a visit to the house of Springer Brothers. This firm has a name for providing costumes combining style and durability. Never were fall suits more attractive than they are this year. There is quite a range of colors, as reds, browns, blues, and black are shown, as well as mixed goods, and each is as stylish as the other.

Judging from present indications, one would conclude that capes were to be quite as much in favor as in past seasons. Two features are noticed which are new with this season. One is a fullness given at the neck at the back, as if a box pleat were laid underneath, and the other is a ruffle, which is as often seen on the cape as on the skirt. Capes are made to suit all ages, and the design does not vary greatly. Our illustration shows the style very clearly. The original is in black kersey, silk lined. This has but one ruffle. The cape is heavily braided. Even the high collar has a finish of the braiding.



Springer Bros.

Elderly women often complain that no fashions are made for them. If they see this cape, they will have to admit that for once fashion has considered them, and made a very attractive wrap.

Hood Farm Butter Test.

Philena S 70875, dropped April 19, 1891. Sire, Sophie's Tormentor, sire of 13 in the 14 lb. list, all testing for us within a year, a son of Tormentor, Imp., sire of 41 in the list, out of Baron's Sophie, Imp., test 19 lb. 15 7-8 oz. Philena S dropped her last calf April 15, 1898. For the week ending June 5 she gave 265 lbs. 5 oz. of milk that churned 18 lbs. 9 1-2 oz. of marketable butter.

Philena S is a model dairy cow, having that lean appearance, slim arch, long, deep body, thin thighs, rising pelvic arch, and carries a very large udder running far out on belly and well up behind, with just the right sized teats perfectly placed, a characteristic of the daughter of Sophie's Tormentor. Hood Farm, Lowell, Mass.

The best way to avoid sickness is to keep yourself healthy by taking Hood's Sarsaparilla, the great blood purifier.

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500 WASHINGTON ST. BOSTON

The Moving of Large Plants.

(Continued from First Page.)

October and early November is generally considered the best season, as there is sufficient warmth in the soil to encourage the production of new roots before winter, which is very desirable. And for the same reason December and January are regarded as the worst months for transplanting, as vegetation is then inactive, and the temperature of the ground very low.

But, after all, the great point to be considered is the weather and the distance the plants are to be moved. With ordinary care and judgment they can be transplanted from one place to another in the same neighborhood at almost any season of the year. As a case in point, I once moved between four and five hundred mixed shrubs after the middle of June. They were carried about three miles in a covered wagon, fifty or more at a time, and were probably out of the ground less than two hours. The weather was warm and dry, but care was taken not to expose the roots unnecessarily, one load being set before another was lifted. The shrubs were large and well advanced, and were intended for immediate effect; many were in full bloom. Among them were denizens, altheas, spiraeas, rhododendrons, purple and white fringes, hydrangeas, flowering cherries and many other varieties of shrubs and small plants. The flowering cherries were nearly twenty years old, and were from twelve to fifteen feet in height, and in full leaf. In lifting them a large proportion of the roots were necessarily sacrificed. Under ordinary circumstances I would not have thought of transplanting such risky subjects, but in this case I was anxious to make a certain assortment, and I had no smaller plants of this variety. I was not surprised, therefore, at losing several of them. However, out of the four hundred and more plants, I lost but five, and those were flowering cherries. If they had come from some nursery several hundred miles away I would probably have lost at least half of them at this season.

Transplanting native trees and shrubs from the woods and fields is always more difficult, as the roots suffer greater mutilation. But if a generous amount of soil is left on the roots, and the plants are not kept out of the ground very long, a reasonable amount of success may be expected. Many prefer the native rhododendrons to the less hardy foreign varieties, but fear the risk of transplanting. A lady I am acquainted with found a choice little rhododendron growing beside the road and directed her coachman to take it up. He knew as much, or as little, about the plants as she did, and pulled the rhododendron up by main strength. Only a small piece of root came up with it, and the dirt was carefully brushed from this so as not to soil the carriage. The rhododendron was then covered under one of the seats with other victims of the drive through the woods and forgotten until the next day, when it was handed over to the gardener with careful directions about setting out. This lady told me afterwards that it was no use to transplant native shrubs; they would not live.

I have removed hundreds of rhododendrons and kalmias from the fields with very little loss, and am convinced that with ordinary care any one can safely transfer large clumps to the home grounds. But in no case should the roots be exposed for any great length of time, and large clumps should have as much soil as a strong man can lift. One spring I transplanted about fifty large rhododendrons in this manner and they did not lose a single specimen. The best time for lifting them is March, or early April; although I have successfully transplanted them as late as the middle of May.

But, as before stated, successful transplanting can only come with experience. Hardly two plants have the same characteristics or requirements, and the details of the subject have an extremely wide application. After success will repay close attention to details when performing the work, and the amateur will feel a keen interest in every new discovery he makes.

Transplanting of trees and shrubs of unusual size is practicable by the use of mechanical means and plenty of strength. For filling up a blank in any important place, such as an avenue, or for planting with a view to producing an immediate effect, the work is sometimes undertaken, though of course,

under more or less exceptional circumstances. The trees must first be at hand, or be procured within reasonable distance for removing, and they must be of a nature likely to transplant successfully with due care and previous preparation if necessary; they must also be situated where removal is practicable. With a view to safely transplanting trees of a larger size than usual, a system of preparation one year in advance is advisable, particularly if the specimens are valuable. This consists in cutting a trench round the trunk, at a distance which depends on the size of the ball which it is intended to move, and severing with a knife the large roots that reach thus far, making a clean cut. Previous to digging the trench, some new soil, of a light rather than heavy nature, should be prepared and brought alongside ready for use. Without allowing the roots to be long exposed, the trench should be filled up again with the fresh compost. In this new feeders will usually push, during the following season, from the points which have been mutilated; and when the time for removing the tree arrives the next trench requisite should be cut outside the one already referred to, and the young roots carefully preserved. The principles which have been detailed in treating of the transplanting of trees and plants of moderate size are similarly applicable, but on a larger scale, to those of unusual dimensions. If a ball of earth to be removed measures two feet, four feet or six feet through, then the hole must be prepared so as to allow plenty of additional space for the roots to be spread out their full length. In starting to lift, it is best to begin wide, and allow sufficient room to work; the roots may be all the more readily separated from the soil and preserved from the mutilation.

For transplanting trees with a great weight of soil attached to their roots, different machines or tree lifters are in use; the management of these invariably requires the closest attention on the part of every workman who assists, as well as the person in charge. Hence, this work, when mechanical power is necessary, should be executed only by those who understand the business from practical experience.

The list of good shade and lawn trees is very large, and varies somewhat with different sections of the country. The one in most general use is the silver maple. It grows with great rapidity, but, after ten or fifteen years, is found to be too large for a small place. Other popular maples, growing with some freedom, but not quite so fast, and rarely found too large, are the Norway, sugar, sycamore, or Scotch, red, or hard maple, and the ash-leaved maple, or box elder. Very abundantly planted for rapid growth is the so-called Carolina poplar, though it is but an upright form of the Northern or Canadian poplar. It makes good shade in marvelously quick time, but most people tire of it before many years. It is too lofty and too large.

The silver-leaved poplar was once popular from its rapid growth, as was the Lombardy poplar; but they are too large for small places. The balsam poplar is used to some extent, for small places, and has few faults. The two lindens, European and American, are the next most generally planted, and, though they grow large eventually, it is a long time before they get too large for small lots. Then come the elms—the common American white chiefly, then the slippery elm, and the European, to some extent. Large in time, it is many years before inconvenience is felt in this respect.

The American buttonwood, and the European plane, also a kind of buttonwood, are popular—especially the latter—but it very soon grows too large for a small place. Horse chestnuts are always in demand; they grow slower than some other trees, but they never lose the favor of their planter when once set out. The yellow locust was once very popular, but offends by its root suckers coming up around like weeds, while the boring of insects soon destroys them.

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alanthus, which grows rapidly; the white and sweet birches—good for smaller places; catalpa—not too large; sugar berry, sassafras, sweet gum, tulip trees, and the cucumber magnoolia, paulownia or empress tree, the pin, red, and swamp white oak, Japan ginkgo tree, and the weeping willow once in a while. Below the Potomac, the evergreen manilla and the yellow tree are very popular. On the Pacific coast, in California, at least, dependence is placed on the different kinds of Australian gum trees and acacias, while the pepper tree—a tree allied to the sumacs of the East—is used almost to the exclusion of other kinds. Farther northward, the Oregon maple—a kind allied to the Scotch or sycamore—is the only one planted to any great extent.

F. H. S.

To Cure Catarrh Do not depend upon snuffs, inhalants or other local applications. Catarrh is a constitutional disease, and can be successfully treated only by means of a constitutional remedy like Hood's Sarsaparilla, which thoroughly purifies the blood and removes the scrofulous taint which cause catarrh. The great number of testimonials from those who have been cured of catarrh by Hood's Sarsaparilla prove the unequalled power of this medicine to combat this disease. If troubled with Catarrh give Hood's Sarsaparilla a fair trial at once.

Just as We Said.

We said a week or two ago that you could find anything you needed at Houghton and Dutton's, corner Tremont and Beacon Streets, Boston. Their card which appears on our fourth page this week is pretty good proof of the truth of our statement, for it shows the low prices they charge for a great number of articles constantly used in every household. Compare their prices with those of other stores and see if they do not prove a magnet which draws you right to their doors.

You remember that last year, about this time, we said that Santa Claus had his headquarters at Houghton and Dutton's. There are pretty good indications that he is there this year and is already stocking up for the Christmas demand. He started early for he knew New Englanders like to spend money at Thanksgiving time to make their tables look pretty for the family gatherings and you will find him ready for you when you do your Thanksgiving shopping. Come early to make your selections and get the best of the stock.

Did you know that Houghton and Dutton keep groceries? They do and all kinds of provisions. Go over their big store and see if there is anything they do not keep.

The Chrysanthemum Show.

The annual chrysanthemum show of the Horticultural Society was an especially fine one this week. The shows are always favorites with all flower lovers and the display this year is conceded to be a gorgeous one. Both halls are filled with the beautiful flowers. Some of the finest are sent from the Nevins estate of South Framingham, Mass. Southern, Miss Clark, of Portland, Conn., the Waban conservatories of Natick, J. A. Bailey of West Roxbury, Mrs. B. P. Cheney, Cornelius Vanambilt of Newport, R. I., Jos. White and Dr. Wells of Brookline and Mrs. Gill of Medford. The plants and flowers are arranged in a particularly pleasing manner, which shows their beauties to the best advantage.

Published This Day

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The Old

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—FOR—

1899

Robert B. Thomas.

WILLIAM WARE & CO., Publishers, BOSTON.

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